

# 2022 NC CHARTER APPLICATION



NC Public Charters

## Organization Information

Organization Name \*

Granite State Charter Academy

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Telephone

9194516444

Fax

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Address

277 Taylor Road

Unit/Suite

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Zip Code

27312

City

Hillsborough

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State

North Carolina

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2022 NC CHARTER APPLICATION  
NC Public Charters





## 2022 NC CHARTER APPLICATION NC Public Charters



Primary Contact Name \*

Laura Howell

Opening Year \*

2024

Is Management Organization Used

Yes  No

Management Organization Name

Primary Contact Relation To Board \*

Board Member

Primary Contact Email \*

lfchowell@gmail.com

Management Organization Contact Name

Management Organization Phone

Primary Contact Phone \*

9194516444

Management Organization Email

Primary Contact Address \*

1218 East Hardscrabble Drive

Unit/Suite \*

Zip Code \*

27278

City \*

Hillsborough

State \*

North Carolina



## 1. Application Contact Information

### Q1. Name of Proposed Charter School

Granite State Charter Academy

#### Applicant Comments :

Granite State Charter Academy

### Q2. Primary Contact's Alternate Telephone Number (xxx-xxx-xxxx)

- The primary contact will serve as the contact for follow-up, interviews, and notices regarding this Application

The Primary Contact is Laura Howell, and her phone number is (919 451-6444). She will serve as the contact for follow-up, interviews, and notices regarding this Application.

### Q3. Geographic County in which charter school will reside

Chatham County

#### Applicant Comments :

The Board of Directors believes that this school will reside in Chatham County, but pull students from Southern Durham County, Wake County, and Orange County.

### Q4. LEA/District Name

Chatham County Schools

### Q5. Zip code for the proposed school site, if known

27312

Q6. Was this application prepared with the assistance of a third party such as a consultant or [Charter Support Organization \(CSO\)](https://simbli.eboardsolutions.com/Policy/ViewPolicy.aspx?S=10399&revid=hejlslsh9el7BC8rRkMVLthGg%3d%3d&ptid=amlgTZiB9plushNjl6WXhfiOQ%3d%3d&secid=lyc2NIZPsdzgEk6V6aj45g%3d%3d) (<https://simbli.eboardsolutions.com/Policy/ViewPolicy.aspx?S=10399&revid=hejlslsh9el7BC8rRkMVLthGg%3d%3d&ptid=amlgTZiB9plushNjl6WXhfiOQ%3d%3d&secid=lyc2NIZPsdzgEk6V6aj45g%3d%3d>)



**PG=6&IRP=0)?**

- Yes
- No

**Q7. Give the name of the third-party consultant or CSO:**

Alliance Education Services, Inc.

**Q8. Describe any fees provided to the third-party person or CSO as reflected in the budget.**

No fees have been or will be charged/collected for this application.

**Q9. Provide a full detailed response of the assistance provided by the third-party consultant or group while preparing this application and when the assistance will end:**

Alliance Education Services, a 501c3 Charter Consulting and Support Organization helped advise on the Educational Plan in order to deliver a unique curriculum and program that exposes all students in grades K-8 to to develop college and career skills aligned with the Board's mission and vision. Alliance also worked with the founding Board to identify potential sites for a permanent facility and connect the Board to potential financial partners to ensure a successful opening should the charter application be approved and moved into RTO status. Lastly, the Alliance helped ensure the application content meets NC statutes where applicable.

**Q10. Projected School Opening Month**

August, 2024.

**Q11. Will this school operate on a year-round schedule?**

- Yes (Year-Round)
- No

**Q12. Complete the Enrollment Summary table (see resources), providing grade levels and total projected student enrollment for Years 1-5.**



Upload Required File Type: excel Max File Size: 30 Total Files Count: 1

Resources

Enrollment Summar...

Applicant Evidence :

Enrollment Summar...

Uploaded on **4/26/2022**  
by **Laura Howell**

Q13. Complete the Enrollment Demographics table (see resources), providing projected enrollment for each of the following demographic groups.

Upload Required File Type: excel Max File Size: 30 Total Files Count: 1

Resources

Enrollment Demogra...

Applicant Evidence :

Enrollment Demogra...

Uploaded on **4/26/2022**  
by **Laura Howell**

Q14. Describe the rationale for the number of students and grade levels served in year one and the basis for the growth plan outlined above.



The rationale for the number of students was based on two primary factors. The enrollment projections represent a historically sound feeder pattern and enrollment target for the greater geographical region of focus. Kindergarten and sixth grade are natural entry points into new schools and this area, in particular, demonstrates parents want to enroll in charter schools as evidenced by the waitlists in Woods Charter and other charter schools within a reasonable distance. In this region, it is not uncommon for parents within 3-5 surrounding Counties to apply for a seat and enroll their child in a Charter School. The second factor is the enormous anticipated increase in the number of school-aged children who will need a seat in a school as evidenced in the planned and ongoing development and construction of residential and commercial growth in this specific area of Pittsboro and the greater Chatham area. About Chatham County: Chatham County takes center stage in North Carolina, strategically located between the Research Triangle and Piedmont Triad. *The third-fastest growing county* in the state is home to the towns of Pittsboro, Siler City, and Goldston as well as several unique rural communities. Chatham Park planning and development has been in process for over 8 years and is set to bring in thousands of new residents, and hundreds of different jobs that will employ thousands of people. The Chatham Park Master Plan is one of 3 of the largest, master-planned communities with residential, commercial, and mixed-use land sites *in the nation.* (<https://chatham park.com/our-vision/> (<https://chatham park.com/our-vision/>)) As an example, In a recent article, Governor Roy Cooper announced that the automotive company (VINFAST) has purchased land at the Triangle Innovation Point in Moncure and will create 7,500 jobs at an average salary of \$51,096. The company will invest \$4 billion in the site and Chatham over the next four years. The announcement makes North Carolina history as the largest economic development project ever announced in the state and as the state's first OEM facility. OEMs are unique opportunities in economic development for their beneficial multiplier effect on the local economy. Chatham County has worked to build upon the growth in the Research Triangle and Triad regions and benefits from a robust existing workforce and excellent quality of life. "In Chatham County, we have been positioning ourselves to be ready for responsible, forward-thinking, future-ready industries," said Chatham County Board of Commissioners Chair Karen Howard. "I am proud to be part of the team that set the groundwork for us to welcome this investment by VinFast that fits squarely with the goals of our comprehensive plan, Plan Chatham." The announcement is a win for the entire central North Carolina region, as VinFast will draw its workforce from Chatham County and likely 22 other counties that are within an hour's drive. A demographic study shows that the population in this area has grown by 32% in the past 10 years and is expected to grow another 15% by 2025 and another 11% by 2030. That growth alone will serve to fill this school with new students. This school application is being submitted for a K-8 school program, which, in year one, will be open to students in grades kindergarten through sixth. The enrollment pattern is designed in a cylindrical



shape which represents historic enrollment and feeder patterns, and it includes an initial enrollment of just over 550 students. Kindergarten and sixth grades will serve as anchoring entry grade levels. The School will add one grade level per year until the School services approximately 800 students in kindergarten through eighth grade.



Lisa Weaves

Comments :

Q15. This subsection is entirely original and has not been copied, pasted, or otherwise reproduced from any other application.

- I certify
- I do not certify

Q16. Explanation (optional)

## Section



Lisa Weaves

Ratings

Meets the  
Standard

The response meets the criteria in some aspects, but lacks sufficient detail and/or requires additional information in one or more areas.



## 2. Non-Profit Corporation Information

Private Non-profit Corporation (NCGS 115C-218.1)

- The nonprofit corporation must be officially authorized by the NC Secretary of State upon application submission.

### Q17. Organization Type

- Non-Profit Corporation
- Municipality

### Q18. Has the organization applied for 501(c)(3) non-profit status?

- Yes
- No

#### Applicant Comments :

The Board will submit a 1023 application for 501c3 status once the charter application has been approved.

### Q19. The private non-profit listed as the responsible organization for the proposed charter school has 501(c)(3) status:

- Federal Tax-Exempt Status (NCGS 115C-218.15)
- If the non-profit organization has yet to obtain 501(c)(3) status, the tax-exempt status must be obtained from the Internal Revenue Service within twenty-four (24) months of the date the Charter Application is given final approval.

- Yes
- No



**Q20. Attach Appendix F Federal Documentation of Tax-Exempt Status**

Upload Required File Type: pdf, image, excel, word, text Max File Size: 30

Total Files Count: 10

**Applicant Comments :**

The school will apply for 501c3 status once the charter application is approved.

**Applicant Evidence :**


Granite State Charte...

Uploaded on **4/26/2022**

by **Laura Howell**

**Q21. Name of Registered Agent and Address:**

Holly Fraccaro

1322 Highridge Drive Mebane NC 27302

**Q22. Federal Tax ID**

87-1497670



## Section



Lisa Weaves

### Ratings

**Meets the  
Standard**

The response meets the criteria in some aspects, but lacks sufficient detail and/or requires additional information in one or more areas.



### 3. Acceleration

Per State Board of Education policy CHTR-013 (<https://simbli.eboardsolutions.com/ePolicy/policy.aspx?PC=CHTR-013&Sch=10399&S=10399&C=CHTR&RevNo=1.12&T=A&Z=P&St=ADOPTED&PG=6&SN=true>), the State Board of Education, in its discretion, may accelerate the mandatory planning year to increase the number of high-quality charter schools.

Q23. Do you want your application to be considered for acceleration?

- Yes
- No

### Section



Lisa Weaves

#### Ratings

Meets the Standard

The response meets the criteria in some aspects, but lacks sufficient detail and/or requires additional information in one or more areas.



## 4. Conversion

Q38. Is this application a Conversion from a traditional public school or private school?

- Yes
- No

## Section



Lisa Weaves

### Ratings

**Meets the  
Standard**

The response meets the criteria in some aspects, but lacks sufficient detail and/or requires additional information in one or more areas.



## 5. Replication

Per SBE policy CHTR-016 (<https://simbli.eboardsolutions.com/ePolicy/policy.aspx?PC=CHTR-016&Sch=10399&S=10399&C=CHTR&RevNo=1.02&T=A&Z=P&St=ADOPTED&PG=6&SN=true>), the State Board of Education (SBE) may, in certain well-defined instances, grant permission for a non-profit corporation board of directors (board) to replicate either its own successful model or to employ an educational management company (EMO) or a charter management organization (CMO) to replicate a successful model currently being operated under the management of the EMO or CMO. The SBE may also, in certain well-defined instances, grant permission for a non-profit corporation board to “fast track” such a replication by foregoing the planning year normally required for newly-approved charter applicants.

**Q55. Is this application being submitted as a replication of a current charter school model?**

- Yes
- No



## Section



Lisa Weaves

### Ratings

**Meets the  
Standard**

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## 6. Alternative

\*A charter school meeting the eligibility criteria set forth in this policy and seeking designation as an “alternative school” must submit an application to the Office of Charter Schools describing in detail the school’s mission as it relates to the request for the designation; the criteria the school plans to use that will meet the eligibility requirements set forth below, including the documentation the school will use to support its admissions process; how the school intends to serve the select population, educationally and otherwise; and the goals the school is setting for academic achievement for this population. The application must also include an admission plan that is well-defined and specifically limited to serving at-risk students as described in the application. A plan that is not well-defined will not be approved.

\*The school must, in its application, designate which of the alternative accountability options it is requesting under ACCT-038 (<https://simbli.eboardsolutions.com/ePolicy/policy.aspx?PC=ACCT-038&Sch=10399&S=10399&C=ACCT&RevNo=1.02&T=A&Z=P&St=ADOPTED&PG=6&SN=true>). The option selected, if approved, cannot be changed except at the time of renewal (as outlined in CHTR-020.III (<https://simbli.eboardsolutions.com/ePolicy/policy.aspx?PC=CHTR-020&Sch=10399&S=10399&C=CHTR&RevNo=1.02&T=A&Z=P&St=ADOPTED&PG=6&SN=true>)).

Q84. Do you want your application to be considered for an Alternative Charter School?

- Yes
- No

## Section



Lisa Weaves

Ratings

Meets the  
Standard

The response meets the criteria in some aspects, but lacks sufficient detail and/or requires additional information in one or more areas.



## 7. EMO/CMO

Q86. Does the Charter School plan to contract for services with an “educational management organization” or “charter management organization?”

- Yes
- No

### Section



Lisa Weaves

#### Ratings

**Meets the  
Standard**

The response meets the criteria in some aspects, but lacks sufficient detail and/or requires additional information in one or more areas.



## 8. Mission Purposes, and Goals

### 8.1. Mission and Vision

The mission and vision statements, taken together, should:

- Identify the students and community to be served;
- Illustrate what success will look like; and
- Align with the purposes of the NC Charter School Law.

Q101. Please state the mission statement of the proposed charter school (35 words or less)

- The mission statement defines the organization's purpose and primary objectives, describing why it exists.
- The mission statement should indicate in measurable terms what the school intends to do, for whom, and to what degree.

**Our Mission at Granite State Charter Academy is to provide an education that is Rigorous, Relevant, and Meaningful to each student in a safe, and supportive environment, resulting in Academic, Career, and Technical Excellence.**



Lisa Weaves

Comments :

Q102. Please state the vision statement of the proposed school.

- What will the school look like when it is achieving the mission?
- The vision statement outlines how the school will operate and what it will achieve in the long term.



The educational experience at GSCA encourages lifelong learning, fosters mutual respect, and instills social responsibility, respect for diversity, and responsible citizenship. We recognize that North Carolina attracts and successfully recruits new businesses and industries to our state and our region. As a result, we endeavor to develop a well-educated and well-prepared workforce to meet the demands of our growing state and, specifically, our local community.

Our Core Values are designed to prepare students for academic achievement as well as to further college readiness and career and technical preparedness:

- **G:** Grow our learning and trades skills.
- **R:** Reinforce related learning disciplines.
- **A:** Achievement by hard work and a sense of accomplishment.
- **N:** New educational methods to better prepare our future workforce.
- **I:** Innovation in learning about new trades and applying mastery and improvement to critical standards
- **T:** Technical skills to immediately seek accelerated educational tracks for HS and options to seek opportunities in the Workforce immediately after graduating high school
- **E:** Excellence in career technical educational

Empowering North Carolinians through excellent education is essential to securing a skilled talent pipeline and achieving a competitive, diverse, and world-class workforce. In today's competitive global marketplace, where North Carolina competes for top talent with economies around the world, we must do more to strengthen our workforce and fill the talent pool.

**Q103. Educational Need and Targeted Student Population of the Proposed Charter School** Provide a description of the Targeted Population in terms of demographics. In your description, include how this population will reflect the racial and ethnic composition of the school system in which it is located. Additionally, how it will reflect the socioeconomic status of the LEA, SWD population, and ELL population of the district? See G.S. 115C-218.45(e) ([https://www.ncleg.net/EnactedLegislation/Statutes/PDF/BySection/Chapter\\_115C/GS\\_115C-218.45.pdf](https://www.ncleg.net/EnactedLegislation/Statutes/PDF/BySection/Chapter_115C/GS_115C-218.45.pdf)).



The basis of GSCA's mission and vision was formed in response to the following facts about North Carolina's present and needs for a successful future:

"More than half of North Carolinians ages 25-44, and even more from underserved areas, have only a high school degree. As our economy grows, jobs will require high-quality credentials or post-secondary degrees. North Carolina needs to ensure that two million North Carolinians hold a post-secondary degree or credential of value by 2030. Our business and education communities must join forces to ensure that students are getting the right degrees and certifications. A strong talent pipeline is not only necessary to retain businesses that have chosen NC as their home but also to recruit new businesses that will enhance our economic competitiveness and improve the quality of life for North Carolinians. Sustainable action is needed to ensure students are aptly prepared for the careers of tomorrow, and that our current workforce has the opportunity to reskill and/or pivot to acclimate to new business demands." (<https://ncchamber.com/issue/education-workforce-development/> (<https://ncchamber.com/issue/education-workforce-development/>))

GSCA will conduct outreach efforts to families with students in grades Kindergarten through 8th. GSCA will welcome all students and will encourage all students to explore their natural talents, try new skills, and ultimately, find their own pathway to success whether that includes college enrollment, careers, and skilled trades.

GSCA will seek to draw students from the following counties: Chatham, Orange, Durham, Wake, and Lee to provide them with a unique educational program that exposes and encourages young students to develop their natural talents and connect their learning to future careers and other opportunities.

GSCA will also increase the diversity of the racial and socioeconomic composition of the school system, (Pittsboro) in which it is located. GSCA will endeavor to increase enrollment and attendance of a multicultural student population including economically disadvantaged students and minority students by implementing a weighted lottery and offering a full continuum of services in order to serve those students. The School will take steps to mitigate any real or perceived barriers to enrollment by offering bus transportation, an NSLP-approved program, a strong EC program, and early and aftercare. Most importantly, the School will have a focused and intentional outreach and marketing campaign that targets adjacent communities in neighboring counties to ensure all families have equal access and information to attend this program. Initial surveys that informed parents about the school and sought feedback were distributed in English and Spanish. Outreach will continue to be multilingual and intentional in geographic reach.



Chatham County currently educates 5,845 students. Of these students

50% are white

31% are Hispanic

11% are Black

5% are Two or more races and

1% are Asian

33% are Economically Disadvantaged

11% are English Language Learners

10% qualify for Exceptional Education Programs

GSCA's goal is to increase EDS students through a weighted lottery and to increase the diversity and inclusion of Black and Hispanic families through a targeted outreach campaign. The goal is to develop a school with a racially and economically balanced population so that all students experience an educational program that provides them access to multicultural peers, and a community that reflects what a diverse neighborhood and workplace will look like in their future. While we strive to increase diversity in all areas, we anticipate serving at a minimum the same percentage, if not greater percentage of ELL, EC, and EDS students. The School does intend to utilize a weighted lottery to assist in the outreach and ability to serve these families.

**Q104. What are the enrollment trends and academic performance outcomes of surrounding schools in the selected community? What elements of your educational model will meet the needs of your target student population?**



There are 3 Chatham County district schools currently within 5-8 miles of this site and only one charter school that is at capacity with a heavy waitlist. One elementary school which serves K-4th grade, one middle school that serves 5th-8th grade, and one high school. The overall academic performance of adjacent counties from which our School will draw students is below. With regards to local academic trends, Chatham County students' overall performance scores show that 49% of elementary and 45% of middle school students are proficient in Math and only 49% of elementary and 51% of middle school students are proficient in Reading. Durham County students' overall performance scores show that 38% of students are proficient in Reading and 26% of students are proficient in Math. Orange County students' overall performance scores are that 41% of students are proficient in Reading and 30% of students are proficient in Math. Wake County students' overall performance scores show that 58% of students are proficient in Reading and 50% of students are proficient in Math. According to educational neuroscience expert Dr. David Sousa, student engagement can be defined as "the amount of attention, interest, curiosity, and positive emotional connections that students have when they are learning, whether in the classroom or on their own."

Dr. Sousa goes on to note that engaged students:

*Have more motivation to participate in class*

*Enjoy achieving their learning goals*

*Are more likely to persist through challenges in learning*

*Feel intrinsically motivated to gain a new and deeper understanding*

*One of the main reasons why student engagement is so important is because the associated skills and habits – motivation, the joy of learning, persistence, curiosity – set students up to thrive in college and their careers.*

The correlation between high student engagement and improved academic outcomes has a strong research history (Dyer, 2015). More recently, a Gallup study that involved 128 schools and more than 110,000 students found that student engagement had a significant positive relationship with student academic achievement progress (growth) in math, reading, and all subjects combined (Reckmeyer, 2019). The effect of low (bottom quartile) vs. high (top quartile) student engagement was especially impactful in math – students with higher engagement had 21.99% higher achievement compared to students with low engagement. The achievement was 4.45% higher in reading and 12.99% higher in all subjects for engaged students. Data derived from Gallup poll (Reckmeyer, 2019). As discussed above, student engagement encourages skills and habits that give



students a better chance of success once they leave school. In fact, a longitudinal study of Australian students ages 9-15 found that 20 years later, those who had higher childhood school engagement were more likely to achieve a higher adult occupational status than those who were less engaged in school (Abbot-Chapman et al., 2014).

(<https://www.learningsciences.com/blog/why-is-student-engagement-important/>)

(<https://www.learningsciences.com/blog/why-is-student-engagement-important/>)

GSCA is confident that our educational model, instructional practices, and curriculum aligned with the NCSCOS will show marked improvement in all assessed core content areas. Our educational model integrates electives that will help students identify their own strengths and interests and will increase student engagement and thus, student academic achievement. Students will be held to high standards for academic achievement aligned with grade-level core content areas, but the learning will be supplemented with and supported by connections to the real-world applications by introducing students to the workforce skills such as financial literacy, coding, engineering, programming, construction, electrical engineering and much more. Electives and specialized workshops, presentations, career events, and field trips with local commerce experts in the field are an integral part of the overall educational model. Enrollment in this county and surrounding areas is projected to increase dramatically. It is expected that new housing starts and commercial development will expedite huge increases in residential growth and the need for new schools in Chatham County as quickly as possible. According to Metrostudy, annual starts for Chatham Co. is 666, Orange Co at 389, and Durham Co. with 1,915 so a total of 2,970. These new starts are approved and in progress and include single-family, townhomes, duplexes & condos.

**Q105. What will be the total projected enrollment at the charter school and what percentage of the Average Daily Membership (ADM) does that reflect when compared to the Local Education Agency (LEA) of the same offered grade levels? (i.e. If the proposed school will be grades 9-12, only compare the total enrollment to the total enrollment of the LEA in grades 9-12).**



The total projected enrollment for this school is approximately 800 students in grades K-8 by year 9. Year 5 enrollment is approximately 680. This represents 12% of Chatham County Schools. They reported 5,845 students in grades K-8th in the 2021-2022 10-day count. [https://drive.google.com/drive/folders/0B6KyhAXLCMkbODhGRm5nMGMwUjA?resourcekey=0-\\_vWiG9qZfkMg3gyIQMjyJg](https://drive.google.com/drive/folders/0B6KyhAXLCMkbODhGRm5nMGMwUjA?resourcekey=0-_vWiG9qZfkMg3gyIQMjyJg) ([https://drive.google.com/drive/folders/0B6KyhAXLCMkbODhGRm5nMGMwUjA?resourcekey=0-\\_vWiG9qZfkMg3gyIQMjyJg](https://drive.google.com/drive/folders/0B6KyhAXLCMkbODhGRm5nMGMwUjA?resourcekey=0-_vWiG9qZfkMg3gyIQMjyJg)) As mentioned above, our School is also designed to meet the needs of a growing population aligned with the planned housing starts and new community construction in progress including a minimum of 2,970 new residential starts. Although this percentage is representative of student enrollment in Chatham County, the sites are positioned in such a way that we expect a portion of our student enrollment to come from Southern Durham County, Orange County, and possibly Wake and Lee county as well.

**Q106. Summarize what the proposed school will do differently than the schools that are now serving the targeted population. What will make this school unique and more effective than the currently available public-school options?**



GSCA is mission-driven to provide students an opportunity to be exposed to, and become masters of grade-level appropriate content that will prepare them for accelerated high school careers and future college and careers in areas identified as critical needs in the Workforce. Our students will be more competent and engaged with all aspects of STEM education through coding, engineering, programming, and other computer-based courses as well as skilled trades including construction, electrical engineering, manufacturing, food service, etc. All of our students will be required to take financial literacy courses through an elective offering, integrated into their classes and as middle school electives. Due to the Board's relationships with local commerce and Skilled Trades Associations, GSCA will partner with many of the businesses that have shown constant, energetic support for our mission to deliver workshops, presentations, and field trips/excursions to ensure our students have access and exposure to all forms of careers in skilled trades and prepare for educational tracks for those who will go on to high schools and ultimately, colleges or careers with a focus on CTE programs. Our students will have access to contractors, culinary specialists, engineering specialists, computer programmers, financial advisors/planners, and a variety of local associations and chambers of commerce that are deeply interested and invested in this unique school model's long-term success. GSCA is confident that this program with its intentional focus on the real-life application of skills, through an educational model that integrates a culture of appreciating skills and trades that will develop successful, contributing citizens that are entrenched in the school culture will empower our students to be highly successful in their academics and their future careers.

Many folks in Education, including the Superintendent herself, acknowledge the need for reform in Schools to allow students to find multiple pathways for their future, and most importantly, to educate students who will be valuable members of the NC workforce. In a recent article, Superintendent Truitt stated she "hopes the state can reassess how it is grading and evaluating its schools to add more measures that encourage districts to offer alternate career opportunities.

"I think what we're talking about is giving teachers permission to do things like real-world learning or project-based learning that they may not feel like they can do because it's not preparing students for the test," Truitt said. Truitt suggested the state evaluate schools by measuring the number of students who are taking post-secondary courses or enrolled in dual credit programs at the community colleges. She even would like to see schools graded based on their engagement with the local business community." (<https://abc11.com/workforce-development-education-continuing-state-economy/11512031/> (<https://abc11.com/workforce-development-education-continuing-state-economy/11512031/>))



GSCA has been working on this program model for over 2 years and it is also supported locally by so many businesses and associations that we believe this school will become a flagship charter school by which others will look to model their programs when Granite State Charter has compop0llllikengage and empower students and encourage them to enjoy learning and to express themselves and their natures in many different ways that will eventually meet the needs of our ever-growing and changing community in North Carolina. GSCA endeavors to develop high student achievement, particularly in the areas of college and career readiness. As North Carolina looks to grow its economy, state leaders are looking to its students as a source of opportunity. GSCA believes that our K-8 charter school will be the first step in developing future high school students ready to choose their college, career, or trades path. "Businesses throughout the state continue to report a shortage of qualified and competent employees. This coming at the same time only a third of North Carolina students seek additional career certification in the six years following high school graduation. To fix these issues, North Carolina Superintendent of Public Instruction Catherine Truitt and NC Chamber president Gary Salamido hope to better align public education with industry needs. The pair hosted a webinar on Wednesday discussing ways the state's education system can create a 'talent pipeline' that prepares students to enter the workforce. Wednesday's discussion spoke to ways schools can better introduce students to various career options early on. "We can't tell them the only way to be successful is through a four-year college," said Truitt. Truitt said educators, parents, and students need to be offered resources to achieve in all post-secondary plans whether that be college, careers, or the military. She pointed to numerous schools across the state that are offering renewable energy, construction, and public safety course credits to high school students. "We know that economic mobility rests on education and a state's ability to educate its workforce or educated students to be employed," Truitt said. "I believe that if we have better alignment between our K-12 system and those opportunities that are a part of the workforce students will win." (<https://abc11.com/workforce-development-education-continuing-state-economy/11512031/> (<https://abc11.com/workforce-development-education-continuing-state-economy/11512031/>))

**Q107. Describe the relationships that have been established to generate support for the school. How have you assessed demand for the school? Briefly describe these activities and summarize their results**



The Founding Board has developed a myriad of community and business relationships over the past two years. Founding Board members have conducted hundreds of outreach sessions to hundreds of different members of local associations and businesses. Support from local commerce and residents has been developed over the past two years of on the ground, grassroots outreach. Each person on the Founding Board has spent time sharing the mission and vision of this new charter school and refining the educational program and focus to meet the needs of this growing community. Surveys, requests for letters, presentations at home builders meetings, HOA meetings, and chamber of commerce events have been incredibly successful to build support. A small representation of this includes:

The Homebuilders Association and Chatham County stakeholders group November 2021

Town staff present at that meeting: County Manager Dan Lamontagne, and Chris Kennedy Pittsboro Town Manager

Builders present Triple-A homes, Chatham County Resident and Chatham County builder, Fitch Creations, Chatham County developer/builder, Homes by Dickerson, Chatham County builder,

ICG homes, Chatham County builder, Lennar, Chatham County builder, and Lee Bowman, The Legion Company Chatham County builder and resident.

Tripp Lloyd, Lloyd Builders April 2022

Jason Dell and Bold Construction Oct 2021

Central Carolina Community College July 2021

Raleigh Wake County home builders association, July 2021

North Carolina home builders association July 2021

Ford D'Aprix, the Rexford Group Chatham County resident and builder

Chatham County Chamber of Commerce July 2021

The Chamber for a Greater Chapel Hill Carrboro, June 2021

Raleigh Association of Realtors May 2021

Raymond Trapp, RTP foundation, June 2021



NCHBA careers in construction subcommittee, December 2021

Frank Wiesner, Executive Director for the North Carolina general contractors licensing board

Chase Pickett, Actual Size Builders

Will and Allison King, Clarity Design-Build (Chatham County resident)

Apex Chamber of Commerce, summer in 2021

Morrisville Chamber of Commerce, summer 2021

In addition to these listed, formal support letters from other residents, businesses, and community members are attached in the appendix.

**Q108. Attach Appendix A: Evidence of Community/Parent Support.**

- Provide evidence that demonstrates parents and guardians have committed to enrolling their children in your school.
- You must provide evidence through a narrative or visual of this educational need through survey data, or times and locations of public meetings discussing this proposed charter school.
- (Please do not provide more than one sample survey form).

Upload Required File Type: pdf, image, excel, word, text Max File Size: 30

Total Files Count: 5

**Applicant Evidence :**


Appendix A letters a...

Uploaded on **4/29/2022**

by **Laura Howell**

**8.2. Purposes of the Proposed Charter School**

**Q109. Select one or more of the six legislative purposes the proposed charter will**



achieve, as specifically addressed in the NC charter school statute GS 115C-218, and the proposed school's operations. The Six Legislative Purposes of a Charter School are:

- Create new professional opportunities for teachers, including the opportunities to be responsible for the learning program at the school site.
- Hold schools accountable for meeting measurable student achievement results.
- Provide parents and students with expanded choices in the types of educational opportunities that are available within the public-school system.
- Improving student learning.
- Increasing learning opportunities for all students, with a special emphasis on at-risk or gifted students.
- Encourage the use of different and innovative teaching methods.

Q110. Provide a brief narrative to coincide with each applicable legislative purpose(s).



GSCA endeavors to meet the needs of all students by focusing on 4 of the 6 legislative purposes of a charter school.

1. Improving student learning: All students will have the chance to explore various career pathways, giving them the exposure they need to choose the right path (for themselves) of college or career from there. This exposure will motivate me to persevere through all high school coursework to reach graduation. Many will be certified in at least one skilled trade or subject area that accelerates them through high school, community college, and 4-year degree programs. Others may become eligible to earn lucrative salaries as they graduate high school based on their certifications and pathways.
2. Increasing learning opportunities for all students, with a special emphasis on at-risk or gifted students: GSCA will integrate career and trades-based education throughout the entire curriculum program for grades K-8 so that students have multiple opportunities to explore potential skills, trades, and careers that they become interested in and passionate about as they learn. This passion will ignite their interest and engagement in their education and drive their academic success when they are excited about learning and understand how the core content and curriculum are critical to their future successes. No other school in this region has developed potential partnerships with as many local businesses, commercial builders, and future companies as has GSCA. These partnerships will be an integral part of our School to provide real-world experience and application for our children.
3. Encourage the use of different and innovative teaching methods: Teachers will encourage and implement different and innovative teaching methods by incorporating real-world modules, problems, and projects into the daily curriculum. They will also supplement the content and standards through electives and integrated projects to support learning and allow students to “go deeper” into the content and truly experience the learning in unique ways. *Some examples of this include a pilot program for financial literacy that uses Thumbtack and construction math that provides teachers with countless construction-, building-, and planning-related math problems to make life relevant to students’ lives. Finally, our elective offerings in the computer sciences, such as SIM City, Code.org, and the Amazon Engineering program, will help build students’ capacity to learn programming, city planning, and community awareness that will prepare them for future jobs and most importantly, prepare them to contribute to their workforce and local communities.*
4. Provide parents and students with expanded choices in the types of educational opportunities that are available within the public-school system: GSCA will be the first (and only that we are aware of) K-8 school that includes workforce in education as part of its driving mission. All students will have an integrated electives program that provides real-life activities and experience to connect the NC grade-level standards to potential future careers. As an example, students will connect mathematics with tools and instruments used in a construction project. They may connect science



projects with a culinary projects and Legos and Minecraft gaming with real-life engineering and programming.

All GSCA students will take courses in financial literacy and will have the opportunity to learn about savings accounts, investing money, and will be required to “get jobs” and understand how they earn and save money, develop budgets, and other critical life management skills. In addition, GSCA is committed to providing ongoing education and support for Parents. GSCA will host evening parent workshops led by the Counselor, our business partners, teachers, and Board members who are actively engaged in the greater Chatham County to ensure parents are as well informed and educated as their children and GSCA believes that by “lifting” the parent community, we will increase student engagement and achievement that much more. We believe that by meeting the first four legislative purposes, the School will subsequently meet the last two legislative purposes as the focus above will lend itself to creating new professional opportunities for teachers, including the opportunities to be responsible for the learning program at the school site and holding our school accountable for meeting measurable student achievement results. GSCA believes that the comprehensive educational model will show improved academic achievement year over year, even as we focus on providing students with multiple pathways to a successful future.

### 8.3. Goals for the Proposed Charter School

Q111. Provide specific and measurable goals for the proposed school for the first 5 years of operation outlining expectations for the proposed school's operations, academics, finance, and governance. Address how often, who, and when the information will be communicated to the governing board and other stakeholders.



GSCA will provide an education that is Rigorous, Relevant, and Meaningful to each student in a safe, and supportive environment, resulting in Academic, Career, and Technical Excellence. GSCA believes that by exposing students to numerous electives, including STEM and skilled trades, they will identify with their natural talents. They will also build a passionate willingness to grow and learn when they connect the required standards to future jobs and career opportunities. These core beliefs shaped GSCA's academic and mission goals. To show progress towards this goal, the following SMART goals have been developed to hold our School and Stakeholders accountable:

**Goal 1:**

- *Academic Performance:*
  - For each year in existence, GSCA will demonstrate an equal or higher school-wide proficiency rating in all core academic subjects, including English Language Arts (reading and writing), Mathematics, Science, and Social Studies, to those of similar schools in the LEA.
- *Metrics:*
  - In Year 1, GSCA students in grades 3-6 will demonstrate a minimum proficiency of 58% in Reading and 54% in Math for students in grades 3-6.
  - By Year 3, GSCA students in grades 3-6 will demonstrate a minimum proficiency of 62% in Reading and 61% in Math.
    - Note: In the past, the minimum acceptable academic goal was 60% proficiency, but schools across the state are experiencing drastically lower proficiency scores due to school closures and remote learning. GSCA understands the goal is to exceed the proficiency of the LEA with a specific goal to decrease achievement gaps and slowly increase the CCR for all students.
  - By Year 5, GSCA students will demonstrate proficiency above the 60% threshold, and a School Improvement Plan will be developed to project another 5-year academic growth plan which will include the following assessments:
    - Annual assessments as directed by the NCDPI (BOG, EOG, EOC, Math 1 when applicable).
    - Ongoing Progress Monitoring and Growth (iReady) assessment or a similar assessment tool.
- *Annual Targets:*
  - Each year, GSCA will meet the state and federal accountability objectives (i.e., growth targets) for all students and subgroups in those content subjects, ultimately earning the School an NC Report Card grade of a B or better. This will be measured by analyzing yearly data and including:
    - EVAAS data,
    - growth scores as reported to the School when SPG is released, and
    - an internal data tracking system that measures the individual and cohort growth of sub-groups of students.

**Goal 2:**



- *Close the Achievement Gaps and increase growth:*
  - Each year, all individual students will show independent achievement growth of at least one year from their baseline performance assessment, specifically in the GSCA's subgroups of students. The ultimate goal is to demonstrate equal proficiency across all subgroups. Although the goal is for all students to demonstrate growth, additional support will be provided to any student not making enough progress and specifically in any groups of students who are making less progress than their peers in other groups.
- *Metrics:*
  - In year 2, achievement gaps between subgroups will close by 3% (after the School has a baseline data point gathered from Year 1).
  - GSCA will close the gaps by an additional 2% each year thereafter for the following 4 years. This goal for closing the achievement gaps may vary in years 3-5 depending upon year to year performance of new students and the performance of each returning cohort.
  - By year 5, there will be less than a 2% gap in achievement in any subgroup of students. The School will use reports from internal and external assessment data including:
    - Running records,
    - I-Ready data,
    - Skills inventories, and
    - Rubric-rated portfolios for each student to demonstrate individual growth.
  - Annually, students will demonstrate one year's growth in those content subjects as measured by standard formative and summative assessments, including state-mandated tests. This will be reflected in the growth scores of the NC Accountability Model.
- *Annual Target:*
  - Annually, students will demonstrate one year's growth in those content subjects as measured by standard formative and summative assessments, including state-mandated tests. EVAAS data and growth scores are reported to the School when SPG are released and will be included in GSCA's internal data tracking system that measures individual and cohort growth of student subgroups.
  - A comparison of historical EOY performance data on NC EOG/EOC and CTE course completion exams will show decreased achievement gaps between student subgroups within the School.

**Goal 3:**

- *Low Student Attrition:*
  - After five years of operation, GSCA will experience attrition rates of 10% or less of the students who started Kindergarten in 2024. This will become an annual goal after the fifth year.
- *Metrics:*
  - PowerSchool enrollment data, PMR Reports, Withdrawal records, and Exit Surveys.
- *Annual Targets:*



- The school's staff will review students retention each year with a target of at least 90% annual retention. This goal will be measured in August each year when the students return to school and GSCA verifies that the previous cohort has returned.

**Goal 4:**

- *Middle School Students' progress towards choosing a CTE/Pathway Completion:*
  - All middle school students will either complete pre-requisite courses that prepare them for HS CTE pathways, or they will complete culminating projects, builds, and/or presentations aligned with their chosen elective pathway.
- *Metrics:*
  - Course completion certificates and portfolio completions will be verified by the School and serve as pre-CTE course tracks
- *Annual Target:*
  - All middle school students will have completed an NCSCOC eligible CTE pathway or a school-based career pathway with a passing grade on a cumulative project portfolio.

**Goal 5:**

- *Financial Efficacy:* GSCA will operate within 90% of its approved budget and will end each fiscal calendar year with a positive fund balance.
- *Metrics:* Yearly Audit and Balance Sheet Statements
- *Annual Targets:* Each June/July the School will complete the required annual audit that will confirm the School's net financial position and determine if the School operated within 90% of its budget approved each year and posted to NCDPI as required and the School's net position will increase by at least \$50,000.00 per year.

**Goal 6:**

- *Reporting Requirements:*
  - The governing Board of GSCA will remain 100% compliant with all reporting requirements, including those requirements found in both EpiCenter and the Comprehensive Continuous Improvement Plan (<https://www.dpi.nc.gov/districts-schools/federal-program-monitoring/comprehensive-continuous-improvement-plan>) (CCIP) system and any other required audits/reporting requirements.
- *Metrics:*
  - Epicenter reports, CCIP communication, Federal program monitoring visits, and Federal funds audit if appropriate,
- *Annual Target:*
  - Epicenter will show monthly and yearly measures of 100% compliance related to all reporting



requirements and evidence. Annual or otherwise Federal program monitoring visits will show a formal close-out letter with no outstanding corrective action items.

Implementation of Assessment Plan:

A comprehensive assessment program will be used to inform all stakeholders about areas in which the School is succeeding and those areas that need strengthening. The student achievement assessment plan will be utilized daily to improve instruction and student academic outcomes. Academic assessments will serve as a feedback system to guide teachers in lesson planning and differentiating instruction. Additionally, it will guide students in understanding full mastery of each respective standard, and it will keep parents informed about student progress through specific learning objectives. GSCA expects that students will progress at least as well as they did before attending the charter school and that the School will achieve its specific, measurable objectives. The School's Instructional Leadership team will monitor and analyze data to maintain a data analysis/problem-solving process that brings out the best in our school, teachers, and students.

The leadership and CST teams will meet weekly to:

- Evaluate data to make data-driven instructional decisions;
- Review progress-monitoring data at the grade- and classroom level to identify students and their academic levels/progression;
- Identify professional development that will enhance student achievement levels/progression;
- Collaborate regularly, problem solve, share effective practices, evaluate implementation, make decisions, and practice new programs and skills; and
- Facilitate the process of building consensus, increasing infrastructure, and making decisions about implementation.

Teachers will work in grade-level teams to disaggregate data with the leadership team. This will allow the School to track student progress and identify academic trends in the classrooms. Students not making adequate progress towards the standards, evidenced in teacher-made evaluations, will also be identified, and appropriate measures for improvement will be instituted. Students will be monitored through the MTSS process, which will be designed by the Child Study Team, and tracked on an individual Progress Monitoring Plan (PMP) document. Ongoing communication between the School and the parents will be maintained through an online reporting system, progress reports, parent conferences, and written/oral communications that make assessment results more digestible and understandable. Ongoing internal audits (e.g., Interim Progress Reports and Report Cards) of student performance, including the beginning of year baseline, mid-year, and end-of-year assessments, will also be utilized as reflective and guidance tools. Teacher professional



development will be selected or reviewed based on student progress. Professional development may be provided to a large group or individually selected based on feedback, student learning gains, and needs-based upon data review. The leadership team and teachers will share student assessment and performance information with both students and parents continuously. The Principal and leadership team will meet weekly in data chats to discuss grade level and student progress

As it relates to the Board and other stakeholders, the Principal will report data during board meetings to keep the board apprised of current progress, challenges, and celebrations. The following are some detailed examples of the means that will be used for sharing this information:

- Student and Parent Reports from PowerSchool;
- Progress reports, report cards, and urgent updates or reminders via the School's grading and reporting system for parents;
- Collaborative meetings to review data and progress;
- Parent participation in Committees (SAC) to develop School Improvement Plans;
- Open, posted Board meetings; and
- Publication of the School Annual Report which will be shared at the Yearly Board meeting and on the School Website.

In addition to the Academic assessment plan and goals, the Board will review ongoing progress towards meeting the four other stated goals for student attrition, meeting the School's mission, compliance, financial stability, and sustainability. Each month the Principal will share information related to attendance and include the PMR reports which show withdraws. The School will request exit surveys to understand parent choice and each year, Spring climate surveys will be distributed to measure parent satisfaction. Those data reports will be shared at the May or June meeting. Epicenter access will be granted to the Board chair who can review items due and compliances. Additionally, the Principal will deliver an agenda item in the board report that includes Epicenter updates. When the School undergoes any program monitoring (e.g., EC or consolidated programs), the close-out letters and/or corrective action letters will be presented to the Board for review. In addition, each month a financial report created by a contracted vendor will be reviewed to track revenues and expenses and project the School's adherence to the approved budget. Any expenses or revenue deficiencies that are greater than 10%, or anything that would put the school in a negative position will be reviewed and discussed and may require an amended budget to be approved. At the annual board meeting, the Board will review the completed financial audit to



determine long-term sustainability and will use those reports to help set budget targets for each preceding year.

Lastly, the School website will include the NC Accountability academic reporting as well as the monthly board meeting agendas and approved minutes so that all stakeholders and the public have access to these metrics.

**Q112. How will the governing board know that the proposed public charter school is working toward attaining their mission statement?**

The Governing Board will know that the School is working towards its goal by meeting the metrics as described in the SMART goals, and by other mission-specific milestones. To name a few, the Board will know the School is progressing towards its goals by:

- Meeting year 1 and future enrollment targets
- Demonstrating academic achievement on all EOY assessments and individual student growth reports from other assessments
- Having high participation from the business and community partners who have supported this application
- Having low attrition rates in students and staff
- Having highly qualified teachers on staff
- Positive climate survey responses from Staff and Parents
- Achieving 100% compliance in Epicenter related to reporting requirements
- Completing Federal program audits with no corrective actions
- Operating within the approved annual budget
- Having a clean annual Audit with no management comments and a positive fund balance

## Section



Lisa Weaves

### Ratings

Exceeds  
the  
Standard

The response reflects a thorough understanding of key issues. It clearly aligns with the mission and goals of the school. The response includes specific and accurate information that shows thorough preparation.

### Comments :

There is so much good in this section it is hard to begin. Real world learning is missing in most public schools, this is the goal here, so very much appreciated. Also very much appreciate the letters of support and data, plus foreign language surveys were also conducted. Other applications say they do this, but do not always include the evidence. The only thing missing would be closing the loop on data collection for the period after graduation. How will the school track and collect data from graduates to know they are achieving the mission. While it seems to be a long way off, building systems to facilitate internships, scholarships and continuing education and placement of graduates needs to be planned early to guarantee success and positive feedback.



## 9. Educational Plan

### 9.1. Instructional Program

Q113. Provide a detailed description of the overall instructional program of the proposed charter school, including:

- major instructional methods
- assessment strategies, and
- explain how this instructional program and model meet the needs of the targeted student population



The School's educational model is grounded in the North Carolina Standard Course of Study delivered through a workshop model. The model is integrated with a purpose-driven electives component that exposes students to various STEM subjects, such as coding, engineering, programming, and design. In addition, students can select to participate in skilled trades, such as construction, electrical design, culinary arts, and financial literacy, to provide them with a creative and challenging student-centered learning environment. The workforce in the education component will be implemented through a cross-curricular delivery method to encourage and enable students to become locally and globally competitive. First and foremost, GSCA is committed to closing the achievement gaps in students' academic performance. Although Chatham and Wake County are higher-performing districts, many of the surrounding counties, such as Durham and Orange, have lower-performing schools. Therefore, it is essential to pay close attention to the student sub-group data and historical growth data, indicating achievement gaps between students of color, economically disadvantaged students, students with special needs, and language learners. GSCA believes these low proficiency scores and the achievement gaps can be mitigated through our instructional model.

Secondly, research has shown that the United States (and Global) economies have changed over the past 15 years. Jobs are changing and as a result, so are the skills required. To prepare our youth to succeed in this new economy, we must look beyond traditional teaching methods and traditional subject content. Research proves that students exposed to a curriculum that includes extensive exposure to skilled trades and STEM subjects will benefit their overall academic and career profiles. In partnership with the Teachers College of Columbia, GSCA has thoughtfully selected the Workshop Model as the best program to increase student engagement and buy-in. It will increase student achievement by providing an instructional delivery model that requires teachers to follow their explicit model lessons with group practice and one-on-one or small group instruction and support during daily instruction in all core subjects. GSCA will maintain increased student achievement and close achievement gaps by increasing student engagement by providing an educational program that includes:

- A fully integrated workshop model of instruction that offers differentiation to meet the needs of all students.
- Vertically aligned curricular programs scaffold students through a grade-level skills continuum in all content areas.
- Thematic projects, engaging lessons, content application opportunities, hands-on inquiry, and community partnerships will infuse the core curriculum to bring real-life applications to classroom instruction.



- A focused electives program in an elementary school that is designed to allow students to find their natural talents and interests in STEM subjects, financial literacy, and skilled trades so they can continue those pathways through middle School
- Middle School electives options that secure a future High School CTE pathway in specific subjects, a continued financial literacy program, and electives offers that allow students to practice STEM and/or skilled trades

Curriculum and instructional delivery through the workshop model are based on individualized instruction and differentiation to assist in closing the gaps. The core texts and materials are also culturally relevant and responsive to increase diversity and inclusion in the classroom. The ELA Units of Study include a wide variety of anchor texts that are culturally diverse and relevant and text selections and content that focus on Social/Emotional Wellness. As diversity is a goal at GSCA, the School will ensure that multiculturalism is celebrated and intentionally integrated into the curriculum to increase student engagement and empowerment. The workshop model allows teachers to provide direct and explicit instruction of a skill, standard, or content and then move students to "practice" independently or in small groups with content materials at the students' performance level. This allows students to practice without frustration or anxiety for below-level learners and reduces boredom and off-task behavior for advanced learners. In addition, the teacher can monitor individual student progress and group progress to measure content knowledge and mastery. This formal and informal feedback drives the instructional calendar and focus. All instruction is based on data and feedback. Although initially used for Reading and Writing, GSCA will replicate the basic workshop model of instructional delivery in all subject areas for consistency and as a means to focus on individual and small group instruction to differentiate learning and support students at their level of proficiency.

The unique design of the K-8th grade program will allow and encourage teacher collaboration across all grade levels, allowing instructional staff to support and scaffold student learning and offer a wide range of differentiated learning opportunities. The full implementation of the workshop model instructional delivery program integrated with the workforce in the education-focused electives component will meet the needs of all learners by engaging students through a differentiated educational environment that is meaningful and purposeful in its scope and sequence. The instructional delivery is built upon daily small group instruction and differentiation opportunities.

Research-Based and Data-Driven Educational Program:

Our Mission at GSCA is to provide a Rigorous, Relevant, and Meaningful education to each student in



a safe and supportive environment. Resulting in Academic, Career, and Technical Excellence. The integrated electives component will help students engage with their teachers and their peers in such a way as to increase the academic performance and growth of all students. The School is unique in that it will:

Partner with the Teachers College of Columbia to become a Home-Grown Institute for the Teachers College Reading and Writing Project. The TCRWP was developed by Lucy Calkins, a pioneer in research-based Reading and Writing instruction and leader of professional development for instructional pedagogy. The mission of the Teachers College Reading and Writing Project is to help young people become avid and skilled readers, writers, and inquirers. The organization has developed state-of-the-art tools and methods for teaching reading and writing, using performance assessments and learning progressions to accelerate progress, and literacy-rich content-area instruction". The workshop model of instructional delivery has developed over the years to include new standards and concepts of the Science of Reading. Still, the core competencies of teaching Reading and Writing holistically and at the student's appropriate level have remained intact. (<http://readingandwritingproject.com/about/overview>)

The workshop model offers an interdisciplinary approach to teaching and learning that allows teachers to strengthen reading and writing skills while teaching content simultaneously. Students will read content-rich materials, work in response journals throughout the day and increase their engagement with the learning by participating in academic conversations, hands-on activities, and thoughtful responses. The core curriculum in reading and writing will meet the NCSCOS standards and guidelines and will also include the six components of Reading: phonemic awareness, phonics, fluency, vocabulary, comprehension, and oral language. Teachers will work with the emergent readers in a phonics and word study program developed by Fountas and Pinnell. They will also use "words their way" to supplement some phonics and word study work. We will utilize the Reading Units of Study developed by Lucy Calkins and the Teachers College Reading and Writing Project (TCRWP) out of Columbia University to assist with the reading pacing and scope and sequence K-8. Students will also receive instruction in various levels and genres of text. Small group instruction will be given at their guided reading instructional level and differentiated literacy workstations to support specific learning goals/targets. The Units of Study in Writing developed by Lucy Calkins and TCRWP will help develop the student's mastery of multiple writing genres and the ability to write with an inclusive grammar and conventions instructional plan embedded into the Writers Workshop. The Units of Study in Writing assist in the pacing and the scope and sequence to ensure a variety of genres are taught K-8.



Although Math, Social Studies, and Science will have protected time in the master schedule each day and will be taught explicitly, they will also be reinforced during the ELA block using the workshop style. For example, suppose a first grader is studying animal habitats in Science. In that case, they may use an Interactive Read Aloud, such as *Stellaluna*, during Reading Workshop. During the Writing Workshop, they may work on a non-fiction piece of writing that describes their chosen animals' habitat. In Science, they may build a habitat and then present a holistic approach to learning about a subject. Each student's final work presentation will be different based on their level of understanding. This same model will work across all grade levels and content areas. Lastly, although the School will have focused electives in STEM (coding, robotics, programming) skilled trades such as electrical engineering, construction, culinary arts, and financial literacy, these electives and projects will be reinforced in the core subjects to integrate the program seamlessly.

Implementation of the Curriculum, Assessments, and Strategies to support student learning:

**Assessment and Accountability:** Assessment is a vital part of the curriculum. GSCA will use various methods to gather and monitor student performance data to ensure all students maintain progress toward mastery of the state academic standards and attain established educational goals.

The assessment data will be used in six ways:

1. To monitor student learning progress and guide the learning towards established goals.
2. To make informed adjustments to the program where necessary.
3. To help differentiate instruction to meet the individual needs of students.
4. To help communicate student performance to parents and other stakeholders.
5. To ensure progress and growth for students on an IEP, EP or ELP
6. To evaluate the program, curriculum, and instructional effectiveness.

At GSCA, benchmarks and assessments will be administered throughout the year and used to guide learning. Teachers will use formative and summative assessments to monitor student progress weekly, quarterly, and annually. Teacher observations, checklists, teacher-made quizzes, and tests will track day-to-day performance. Lessons will be adjusted to fit student needs and maximize learning. Culminating projects, authentic assessments, portfolios, and state-standardized tests will be utilized for summative assessments. Student performance on these assessments will be recorded by teachers and shared with parents using PowerSchool, interim reports, and report cards. Administrators, teachers, parents, and students will analyze student performance and other school data to inform final decisions concerning intervention, acceleration, and enrichment curriculum. GSCA will systematically collect, analyze and apply data to monitor all aspects of



organizational and instructional effectiveness at the student, classroom, and school levels. Student progress information will be gathered and monitored using the following:

- teacher observations,
- long-range and short-range lesson plans
- student portfolios
- Rubrics
- formal and informal assessments
- interim and quarter report cards, parent conferences
- honor roll
- i-Ready
- State standardized assessments
- Transparent communication of individual student's progress by way of progress reports, report cards, parent conferences

Learning activities and resources may be varied by difficulty to challenge students based on different readiness levels (including those students above or below grade level, with disabilities, identified as gifted or AIG, and those requiring ELL services), by topic in response to student interests, and by students' preferred ways of learning. The learning environment will be planned and monitored using a variety of benchmark and formative assessments administered throughout the year. Teachers will have the flexibility to adjust their lesson plans to help students achieve academic excellence. Specific professional development will be provided for teachers on differentiated instruction. At least twice per year, GSCA will conduct parent-teacher-student conferences that will follow the Parent-Student-Teacher Conference Model. In this model, students participate in the conference and showcase what they have learned. Discussion of progress in other subjects will also occur, and goal-setting/evaluation for the student during the year.

Another aspect of assessments is accountability. The following list is GSCA's tentative formative and summative assessments plan for the core subjects at both the school and state levels. (Note that some assessments are only available in specific grades and up, and some are subject to the state budget, e.g., APPLL.)

English Language Arts:

- Reading Records
- i-Ready
- DRA 2+ (Developmental Reading Assessment, 2nd)
- mClass



- NC Check-ins
- EOG (and BOG in 3rd Grade)

Math:

- Unit-based assessments
- i-Ready
- NC Check-Ins
- EOG

Science:

- Unit-based assessments
- NC Check-ins
- EOG (5th and 8th grade)

Social Studies:

- Unit-based assessments

EC, AIG, and ESOL programs:

- CogAT & Iowa Assessment (IA) or K-Bit and Renzulli tests followed by Psych evals
- W-APT (WIDA-ACCESS Placement Test)
- ACCESS (Assessing Comprehension and Communication in English State-to-State for English Language Learners)
- NC Extend if appropriate



Lisa Weaves

**Comments :**

Appreciate use of workshop in all areas, for all ages. Still not certain how career education will be incorporated, but the applicant has invested in the curriculum and pedagogy. If the right teachers can be found, leadership will make it work, but it will not be easy since all of this will be new and not taught in most teacher training programs.

Q114. Will the proposed charter school serve a single-sex student population?



Yes

No

**Q118. Curriculum and Instructional Design** Describe the basic learning environment (e.g., classroom-based, independent study), including class size and structure for each grade span (i.e. elementary, middle, high) the school would ultimately serve.



Students' academic and personal success is at the forefront of all processes and procedures. However, GSCA recognizes that the School cannot reach these extraordinary curricular achievements without a safe and orderly environment for students and teachers. Therefore, the School will adopt and follow the policies and expectations in the draft handbooks to stimulate a productive learning environment and promote responsible citizenship. GSCA's classrooms will be a positive place where students can work toward specific goals in the class objectives. The teacher must be positive, organized, outgoing, confident, and compassionate. The instructor sets the tone for the entire classroom. Teachers will begin each lesson with direct attention to the daily learning objective and student learning outcome. The basic workshop model and gradual release encourage and support a whole group lesson, leading to students working in small groups, buddy work, and individual practice. This general structure allows teachers to conduct the class and individual understanding checks, and other concerns that may impact the lesson.

#### Workshop Model:

The Workshop Model is a curriculum and instructional delivery model that focuses on a few essential practices, including Gradual Release. The teacher will explicitly teach a new, grade-level appropriate standard or skill (i.e., I DO). Then students will break into small groups or pairs to "practice" (i.e., WE DO) the standards or skills using materials (books, games, lessons, integrated technology, manipulatives, etc.) at their level until they are comfortable with the content and lesson. During this small group practice time, the teacher is available to circulate and check on each group and offer scaffolding and support. This is also when the teacher can pull individual and small groups of students to work with them on skills at their level, which can be at, above, or below expectations. This may also be when ELL and EC students receive focused support and interventions. Eventually, students will have assignments for individual practice and assessments (i.e., YOU DO). Workshop model classes in all subject areas ensure that student materials are easily accessible for practice activities for small groups and individuals, so the room is set up accordingly. During walkthroughs, administrators would look for organized materials for students to access; active, relevant, and current word walls (all subject areas); student data progress charts; anchor charts that support the current or prior lessons; and an environment that exudes collaboration and comfort. This should be seen in every classroom at every grade level and subject area.

#### Class Size:

To meet School goals, GSCA will design and implement effective classroom environments. Research by Jason J Barr from the IDEA Center on *Developing a Positive Classroom Environment* (October 2016), indicates that the physical and instructional environment play integral roles in school success.



The classroom climate reflects students' opinions of their academic experience (Reid & Radhakrishnan, 2003), which includes students' perceptions of the rigor of the class, their interactions with their instructor and class peers, and their involvement in the class. Although instructor-student rapport plays a critical role in the classroom climate, student-student rapport may also be a contributing factor (Frisby & Martin, 2010). Students perceive a connected classroom climate as a compassionate and supportive student-to-student environment (Dwyer et al., 2004). Student-to-student connectedness is built on a collection of behaviors, including praise, smiling, or sharing personal stories or experiences that positively affect educational processes and outcomes (Sidelinger, Bolen, Frisby, & McMullen, 2012).

GSCA is committed to developing strong relationships between students and staff and creating learner-centered classrooms that allow for these critical relationships and experiences to manifest through the workshop model with intentional inclusion of the culturally responsive curriculum and integration of the workforce, skills, and trades electives component to increase diversity, inclusion, and equitability in the classroom. All classes will meet class size-reduction requirements, and the average student/teacher ratio will be 22:1 in grades K-8. The physical environment will meet the needs of the students appropriate by grade level. For example, elementary classrooms will include student tables for group and center work with a gathering area rug for whole group instruction. All classrooms will consist of space designed for classroom libraries and independent work areas, and wall space will include instructional boards and space for student work displays. Students will have individual desks for movement in the classroom in the middle school, but the desks can be easily moved together for collaborative activities and tasks. Teachers will provide direct whole group instruction and allow students to move their desks to work in groups and pairs. Individual seating also allows for an appropriate testing environment and independent learning. Seating arrangements for all children must be carefully considered. The teacher's desk will allow a broad view of all students and the classroom. Young students may be seated in small clusters at tables to promote language interaction and social/emotional skill development. In contrast, older students may require flexibility in seating to accommodate the instructional style and specific class activities.

GSCA also agrees with Frank Clint that "An aesthetically pleasing environment can influence behavior. Many areas may display work or materials, post-class rules, provide schedules and feedback charts, list daily assignments, and highlight new skills. Bulletin boards and walls should be visually appealing, uncluttered, and changed frequently. There are four types of learning environments (Study.com, 1/2022). GSCA will develop "learner-centered" environments that pay close attention to the individual student's needs. These centers encourage students to bring their culture, beliefs, attitudes, skills, and knowledge into the learning environment. The teacher builds



upon the conceptual and cultural understanding of each student. There is often shared work and discussions, and after providing explicit instruction, the teacher will act as a bridge between new learning and content and what the students already know.

*In Classroom Spaces That Work*, Marlynn K. Clayton and Mary Beth Forton discuss the importance of setting up your classroom to fit the needs of the students, not the adults. We will make the classroom fit the children's bodies by estimating the range of sizes based on what is typical for that age. We will use this estimate to:

- Choose desks, tables, and chairs that fit the children.
- Select and arrange bookcases and shelves. In general, children should see and be seen over any shelves. Taller shelves should be placed along the perimeter.
- Determine where to locate display areas. For example, displays meant for children should be at their eye level whenever possible.
- Plan the amount of space needed for class meetings. For example, when children sit in a circle on the carpet, there should be approximately three inches between children.
- Plan enough space for table work. Keep in mind that when children sit at a table to work, they need "elbow room" and sufficient area to spread out materials.
- Utilize space that best meets the needs of the students and provides flexibility for independent and cooperative learning.

All classrooms at GSCA will be designed to maximize space and provide an environment built for student-centered and cooperative learning. Classroom furniture and space will allow students to complete projects and work collaboratively on the supplemental curriculum and electives described throughout the application that focuses on developing relevant knowledge in mathematics, coding, engineering, electrical design, programming, construction, and much more.

Curriculum:

The School will use a research-based, state-approved curriculum for all core subject classes at all grade levels. Those core pieces will also be supplemented with intervention programs (digital and non-digital), instructional diagnostic software programs, and supporting curricula for EC and ELL students. The curriculum includes the following elements:

- Reading/ELA: The English Language Arts curriculum, **Units of Study**, will address the North Carolina SCOS for English Language Arts for kindergarten through grade eight. These standards include literacy, reading, writing, and communication expectations for each grade level. The English Language Arts program will help students use the reading process effectively. Students will be able



to select and use pre-reading strategies appropriate to the text, such as discussion, making predictions, brainstorming, generating questions, and previewing to anticipate the content, purpose, and organization of a reading selection. Reading will not be passive but rather an interactive process involving the text itself, the reader, and the context of the reading situation.

Additionally, students will use the writing process effectively. They will be able to select and use appropriate pre-writing strategies, such as brainstorming, graphic organizers, and outlines.

Teachers will implement the workshop model approach with guided reading, leveled readers, and timely progress monitoring.

- **Math:** The core mathematics curriculum, **Reveal Math**, will address the North Carolina SCOS for Mathematics for kindergarten through grade eight. These standards include process standards that students use to develop the conceptual understandings and applications of mathematical content and skills. Critical concepts in mathematics education include number system and operations, algebraic thinking and operations, measurement and applications, geometry and logic thinking, and data and analysis. Students will learn how to solve real-world problems and develop skills in researching information, strategies, and methods of solving each problem, thus helping students develop a deeper mathematical understanding by providing activities to evaluate methods and conclusions. This curriculum aids students in developing the use of mathematical language as they discuss and solve real-world problems within each mathematical concept.
- **Science:** The science curriculum, **Carolina Biologic**, will address the North Carolina SCOS for Science for kindergarten through grade eight. These standards and performance indicators include scientists' and engineers' academic content and practices on a state and national level. Instructional strategies will consist of differentiated instruction that supports content mastery. In grades K-2, the science and engineering practices and core content emphasize students making observations and explanations about phenomena they can directly explore and investigate. Student experiences will be structured as they begin to learn the features of a scientific investigation and engage in science and engineering practices. In grades 3-5, the science and engineering practices and core content emphasize students becoming more sophisticated in describing, representing, or explaining concepts or ideas. Students use their experiences from structured investigations in kindergarten through grade two to plan their investigations to answer scientific questions. Using current events will expand students' vocabulary and create more interest and relevance in Science. One possible resource exchange on the state adopted list is Carolina Biological Science. This resource is a research-based science curriculum for grades K-8 developed with The Smithsonian and includes core textbooks and hands-on experimental kits. The program bridges research and practice by providing tools and strategies to engage students and teachers in enduring experiences that lead to a deeper understanding of the natural and designed worlds.
- **Social Studies:** The social studies curriculum, **Pearson MyView**, will address the North Carolina



SCOS Standards for kindergarten through grade eight. These standards will provide students with the knowledge of government, geography, history, and economics, which are essential for creating informed citizens who participate in a democratic society. Social studies classes will be taught in a hands-on, project-based approach, relying on important primary source documents to address rigorous literacy standards and technology to enhance the delivery of content knowledge or quality products created by students.

The curriculum will promote students' understanding of historical, geographical, and civic knowledge and their application of this knowledge to today's diverse world culture. Students will learn about the world they are most familiar with, such as home, school, and the neighborhood, in the earlier grades and expand to the broader geographic area. Third grade continues to expand as the students are introduced to the history of our state and teach them about North Carolina's geography, jobs, and government. The remaining elementary years will focus on the story of the United States based on important events, people, and policies that have led us to become the country we are today. The program will prepare students to understand multiple cultures, tolerance, and respect for the world beyond our borders and encourage them to become global citizens. Pearson's myWorld Social Studies utilizes storytelling to bring social studies content to life. It connects social studies content and literacy instruction with materials that are streamlined, flexible, and attuned to today's classroom. The innovative digital instruction is seamlessly integrated, providing a blended program that is engaging, effective, and easy to use.

SEL/Character Education: Global Character Education Program: To prepare students for success in modern society to meet the global challenges of their lifetime, GSCA is committed to good character and citizenship so that our students are prepared to be successful and valuable assets in their communities. The Board believes that teaching positive character traits is essential to improving the learning environment, promoting student achievement, reducing disciplinary problems, and developing civic-minded students in cooperation with the parents and community, who will be prepared for leadership in today's global society and beyond. These principles include, but are not limited to, the following: Individual self-worth; Strength in knowledge; Personal integrity and honesty; Choice and accountability; Preparedness; Respect for the rights of all persons regardless of race, religion, sex, age, physical condition, or mental state; Sense of justice and fair play; Trustworthiness; Patriotism; Citizenship; Understanding; Sympathy; Concern and compassion for others; Discipline and pride in one's work; Respect for one's property and the property of others, including public property; Understanding of the rights and obligations of a citizen in a democratic society; Respect for authority; and Self-advocacy.

The program for character education will include meaningful and age-appropriate lessons that



respect all learners and will help all students succeed. The School will maintain school communities in which positive behavior is expected, practiced, demonstrated, modeled, and reinforced within an environment of mutual respect and dignity. There are multiple resources available through The Teachers College that explicitly teach diversity, character, inclusion, leadership, and understanding of one's place in a greater community.

MS Electives Curriculum: 6-8 Electives include:

- CY01 Computer Skills and Applications
- CY20 Computer Science Discoveries
- CY30 Coding with Minecraft
- Samples of the specialty electives and financial literacy are included as appendix items.

Finally, GSCA will maximize student achievement and well-being by providing appropriate class sizes. Therefore, class size ratios are expected to average overall at 22:1 in grades K-8, focusing on lower specific class sizes at younger grades.



Lisa Weaves

**Comments :**

Curriculum chosen intentionally and culture and environment goals fit the school mission and vision.

**Q119. Identify how this curriculum aligns with the proposed charter school's mission, targeted student population, and North Carolina Accountability Model. Provide evidence that the chosen curriculum has been successful with the target student population, how the plan will drive academic improvement for all students, and how it has been successful in closing achievement gaps.**



Our Core Values are to Prepare Students for Academic Achievement as well as to further Vocational and Technical Education

- G** Grow our learning and trades skills.
- R** Reinforce related learning disciplines.
- A** Achievement by hard work and a sense of accomplishment.
- N** New educational methods to better prepare our workforce.
- I** Innovation in learning about new trades.
- T** Technical skills to immediately seek employment opportunities.
- E** Excellence in career technical education.

Specific academic achievement goals will be based on student growth and decreased achievement gaps as the primary indicators for success. Furthermore, some of the School's progress will be measured with national benchmarks or assessment tools such IReady and similar progress monitoring tools. As an NC public charter school, GSCA's instructional content will be fully aligned with NCSCOS curriculum requirements, including academic standards adopted by the State Board of Education. These standards are specific for each grade level and content area and will be used as the minimum expectations for GSCA students. The entire core curriculum is selected to meet the School's mission and prepare all students to be academically successful based on standardized assessments, including MClass, NC Check-Ins, BOG, EOG, and EOC (Math 1). A brief sample list of the core content curriculum and supplemental items include:

- K-8 ELA: Reading and Writing Units of Study (Heinemann)
- Phonics and Spelling provided by Words Their Way and Teachers College Inventories
- K-8 Math: Reveal Math
- K-8 Science: Carolina Biological
- K-8 Social Studies: Studies Weekly and Pearson's My World
- K-5 STEM through Legos Education [https://education.lego.com/en-us/lessons?ef\\_id=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rfXFx3-a0aE1PC0UaK8aAv6ZEALw\\_wcB:G:s&s\\_kwid=AL!790!3!463549708227!!g!!&gclid=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rfXFx3-a0aE1PC0UaK8aAv6ZEALw\\_wcB](https://education.lego.com/en-us/lessons?ef_id=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rfXFx3-a0aE1PC0UaK8aAv6ZEALw_wcB:G:s&s_kwid=AL!790!3!463549708227!!g!!&gclid=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rfXFx3-a0aE1PC0UaK8aAv6ZEALw_wcB) ([https://education.lego.com/en-us/lessons?ef\\_id=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rfXFx3-a0aE1PC0UaK8aAv6ZEALw\\_wcB](https://education.lego.com/en-us/lessons?ef_id=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rfXFx3-a0aE1PC0UaK8aAv6ZEALw_wcB))



a0aE1PC0UaK8aAv6ZEALw\_wcB:G:s&s\_kwcid=AL!790!3!463549708227!!!g!!&gclid=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rFX3-a0aE1PC0UaK8aAv6ZEALw\_wcB)

- K-8 Financial literacy through LifeHub Financial <https://lifelhubjobs.com/> (<https://lifelhubjobs.com/>)

6-8 Electives include:

- CY01 Computer Skills and Applications
- CY20 Computer Science Discoveries
- CY30 Coding with Minecraft <https://docs.google.com/document/d/1myJwrDyRIAjwVND53gs-3JajNhogsGMt9Swo-bpySgE/preview#> (<https://docs.google.com/document/d/1myJwrDyRIAjwVND53gs-3JajNhogsGMt9Swo-bpySgE/preview>)

[https://education.lego.com/en-us/lessons?ef\\_id=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rFX3-a0aE1PC0UaK8aAv6ZEALw\\_wcB:G:s&s\\_kwcid=AL!790!3!463549708227!!!g!!&gclid=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rFX3-a0aE1PC0UaK8aAv6ZEALw\\_wcB&grades=Grades+6-8](https://education.lego.com/en-us/lessons?ef_id=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rFX3-a0aE1PC0UaK8aAv6ZEALw_wcB:G:s&s_kwcid=AL!790!3!463549708227!!!g!!&gclid=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rFX3-a0aE1PC0UaK8aAv6ZEALw_wcB&grades=Grades+6-8) ([https://education.lego.com/en-us/lessons?ef\\_id=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rFX3-a0aE1PC0UaK8aAv6ZEALw\\_wcB:G:s&s\\_kwcid=AL!790!3!463549708227!!!g!!&gclid=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rFX3-a0aE1PC0UaK8aAv6ZEALw\\_wcB&grades=Grades+6-8](https://education.lego.com/en-us/lessons?ef_id=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rFX3-a0aE1PC0UaK8aAv6ZEALw_wcB:G:s&s_kwcid=AL!790!3!463549708227!!!g!!&gclid=Cj0KCQjwmPSSBhCNARIsAH3cYgbqt8Rgq8mHsD-ryYjA5-786WFHgLw1T3d9rFX3-a0aE1PC0UaK8aAv6ZEALw_wcB&grades=Grades+6-8))

As a homegrown workshop institution and a K8 charter school that embeds the education in workforce priority, GSCA will strive to become an often-visited center for expert differentiation in the classroom with a small group instructional model to improve academic performance for all learners and a culturally diverse student body based on the minority outreach and inclusion. As a result, students will be more culturally aware because diversity and inclusion are incorporated into the curriculum. In addition, they will be more socially conscious as they work on collaborative projects and activities aligned with future career and skilled pathways. The core curriculum, instructional model and practices, assessment plan implementation, and a data-driven approach to student achievement will synergize to increase student engagement and academic outcomes. The curricula are selected based on the founding research and data that show these selections have proven track records when implemented and taught with fidelity. They are also aligned with NC standards. The focus on small group instruction and differentiation in the classroom for all grades and subject areas will help close achievement gaps and help improve student performance outcomes. Together, these strategies will enable students to demonstrate growth each year, which lends to the School reaching and exceeding growth targets. The proficiency and college and career readiness scores will



ultimately render Granite State Charter School a high-performing charter school.

Q120. Describe the primary instructional strategies that the school will expect teachers to master and explain why these strategies will result in increased academic achievement for the targeted student population for each grade span (i.e. elementary, middle, high) the school would ultimately serve.



Instructional and Mission-Based Design Elements:

The mission of GSCA is to provide an education that is Rigorous, Relevant, and Meaningful to each student in a safe and supportive environment, resulting in Academic, Career, and Technical Excellence. This educational experience encourages lifelong learning, fosters mutual respect, and instills social responsibility, respect for diversity, and responsible citizenship. We recognize that North Carolina attracts and successfully recruits new business and industry to our state and, in particular, to our region. We endeavor to educate a well-prepared Workforce to meet these demands of our growing state. Empowering children to lead and learn will ensure they meet their greatest potential. The educational plan includes a workshop-style of instructional delivery with a fully integrated career-mindedness component grounded in a culture of inclusivity and multicultural sensitivity, all thoughtfully designed to meet our mission. The workforce mindset will encourage students to become active learners, passionate about their skills and natural talents, and explore potential careers and opportunities beginning in Kindergarten and continuing throughout 8th grade, ultimately preparing them for high school, college or careers directly upon graduating high school. Lastly, GSCA believes that differentiation through the workshop model of instruction with individualized attention to students will help close student achievement gaps and increase overall school-wide academic achievement. The primary educational program is anchored in the North Carolina Standard Course of Study. Based on these standards, the School will primarily use state-adopted textbooks and researched-based supplemental materials proven effective with students in their current programs throughout the state and local district. Teachers will deliver courses with integrity to the course content outline, and the material will be taught sequentially, consistently, and rigorously. Teachers will introduce concepts and utilize appropriate materials for mastery of the grade-level expectations. As noted in the sections above, the School will use research-based instructional practices to deliver the selected curriculum through the workshop-style model, anchored in differentiated learning and individualized attention for all learners to meet their needs. In addition to the core curriculum that includes a resource to teach Reading/Language Arts (with a phonics component for emergent readers), Mathematics, Science, and Social Studies, the School will implement a full "Education in the Workforce" based component through an elective block that utilizes research-based materials to give all students access to and exposure of many workforce skills that are desperately needed today and in the future. These include computer programming, electrical engineering, coding, construction, and financial literacy.

Middle School students will have the opportunity to earn high school credits in middle school in Math. In addition, they will begin preparations for CTE pathways that will enable them to earn certifications in HS in various courses such as Computer Science Discoveries, Coding with Minecraft,



and Amazon Engineering. The NC courses available include CY01 Computer Skills and Applications, CY20 Computer Science Discoveries, and CY30 Coding with Minecraft. We will use the LifeHub Financial Literacy program as part of the math curriculum for Elementary School and in the electives rotation for Middle School. The selected curriculum materials were chosen to align with the School's Educational Plan to meet the mission and vision of the School. The School will incorporate the following to ensure that the curriculum resources are implemented in such a way as to support the program through strong instructional delivery, including:

- **Modeling and mini-lessons:** Teachers will use this methodology when they need to explain or demonstrate specific content and skills.
- **Explicit, systematic instruction based on North Carolina's Standards:** This instruction is structured and based on mastery learning. Frequent curriculum-based assessments help place students in ability groups for further differentiated strategies and identify students who require additional intervention
- **Interdisciplinary Connections:** Teachers will make curricular decisions to ensure student mastery and achievement instead of merely working through content. As teachers build interdisciplinary connections, students naturally begin to link information between and among courses, increasing the relevancy of skills and content in their courses.
- **Cooperative Learning:** Teachers will guide small-group learning to increase communication and team-building skills, including grouping small teams of students heterogeneously according to ability, interest, and background. Cooperative learning activities will include Jigsaw II, Peer/Buddy Reading, Group Problems, Legos/Robotics Builds, and other modules/projects.
- **Inquiry-Based Learning:** Based on the scientific method, inquiry-based learning requires students to conduct investigations independent of the teacher unless otherwise directed or guided through discovery. Teachers will use this strategy to develop critical thinking and problem-solving skills.
- **Differentiated Instruction:** The School's ultimate goal is to provide a learning environment that will maximize the potential for student success. Teachers will use differentiated instructional strategies that connect with individual students' learning needs. Teachers will manage instructional time to meet the standards while providing motivating, challenging, and meaningful experiences for students to receive and process information in ways that require differentiation of experience. Small group instruction will focus on differentiated instruction that meets the needs of all students and enables all students to maximize their potential.
- **Scaffolding:** Teachers will identify the current developmental skills of individual students based on assessments and provide support structures to help students move to the next level. As the year goes on, the student becomes more adept at skills and directing their learning. As a result, learning becomes more autonomous. The model is uniquely designed to meet the needs of each learner, thereby closing the achievement gaps in student learning and mastery.



Materials (books, texts, activities, manipulatives, software programs, and projects): These are multiculturally diverse and inclusive to the students and help prepare our diverse student body for real-world experiences. The classroom environments and materials will be selected to make each student feel valued and represented in the classroom.

**Q121. Explain how the proposed instructional plan and graduation requirements will ensure student readiness to transition from grade to grade and to the next grade span upon program completion.**



Students must be designated as meeting grade-level expectations to move to the next grade level each year. Promotion decisions will be based on student performance on grade-level content and standards throughout the year and include performance on all mandatory assessments and formative and summative progress monitoring. Any student at-risk for failure will be placed on a formal PMP and monitored through MTSS. In addition, parents of any student identified as possible candidates for retention will meet with their teacher team and administration to discuss alternatives to the retention and the students' grade-level placement for the following year. Ultimately, it is the School's Principal responsibility to promote or retain a student using all the data and input from the entire MTSS team to ensure the child's long-term success. As stated in the prior sections, the School will focus on common planning time for grade levels, and each month there will be vertical team planning. This time will allow grade-level teachers to work with the following grade-level team to determine the students' skills and deficiencies and put a plan for remediation and recovery. Although summer reading camp for all 3rd-grade students is required through the RTA act, GSCA will offer an academic remedial camp for at-risk students to help scaffold them into the next grade level and prevent retention unless it is necessary and in the best interest of the child. Third-grade students will participate in reading to Achieve. All 3rd-grade students will attend summer camp if they have not met the Read to Achieve guidelines/standards. Their success in the Reading Camp will help determine their placement the following year. All English Language Learners will participate in the WIDA Access, and CSCA will provide all accommodations for Students with Disabilities, including alternative assessments as appropriate. ELL or EC students will have multiple accommodations and/or modifications to ensure their matriculation grade to grade is successful. In addition to vertical grade level planning, the ELL and EC teams will work with the general education team and the students' parents to support the child through matriculation. In these cases, the goals in the IEP or ELP drive the conversations as the student makes progress to meeting those yearly goals. Each year, new goals and strategies to achieve those goals will be developed and shared with the new teachers those students are placed with. Students exiting our school program in 8th grade must have completed all course and grade level requirements per NC Statute that enable them to register and enter 9th grade in any NC public high school. In addition, the policy handbook includes language specific to transition and promotion for all students, including SWD and ELL students. We believe that the workshop model of instructional delivery provides an inherently strong support network for identifying and scaffolding at-risk students. It is grounded in small group instruction and students working at their levels of proficiency as they practice grade-level standards. The model requires teachers to conduct ongoing progress monitoring and share the data with the MTSS team if appropriate. In addition to academic failure, the early-warning signals for MTSS include other indicators such as attendance, tardiness, behavior, attention, and mental health. The delivery



model, which allows daily small group interventions and the curriculum that includes an SEL component, will help teachers identify struggling students earlier so that appropriate intervention can begin sooner. All struggling students will be placed on a PMP. The MTSS team will be intricately involved in developing a support structure for the students and identifying resources to support them and their parents. As discussed in the Parent Involvement section, GSCA seeks to partner with parents in the child's education and, therefore, will work closely with parents to ensure that they are successful in school and how parents can support them at home. This will result in increased students' academic performance so that GSCA can meet or exceed all academic goals and successfully bridge achievement gaps within our student population.

**Q122. Describe in a brief narrative how the yearly academic calendar coincides with the tenets of the proposed mission and education plan.**

The yearly academic calendar will allow for intentional, focused instructional time, with enough days built into the calendar for professional development, parent conferences, and other make-up or emergency days. The calendar has 176 student instructional days with an extended daily schedule of 7 hours per day, resulting in 1144 instructional hours. The calendar also is thoughtfully developed to have natural start days (Mondays), end days (Fridays) and semester breaks and end of the School year just before holiday breaks. GSCA believes this helps with consistency in instruction, and allows for breaks when staff and students may be fatigued. The operating calendar may be reviewed after the School is stabilized and the community supports the School's efforts. Most importantly, the yearly calendar allows for local commerce participation, civic engagement, field trips, career day events, and on-site projects/modules with community support.

**Q123. Describe the structure of the school day and week. Include the number of instructional hours/minutes in a day for core subjects such as language arts, mathematics, science, and social studies. Note the length of the school day, including start and dismissal times. Explain why the school's daily and weekly schedule will be optimal for student learning.**



The School Day and Week: Elementary and Middle School:

- The School day includes seven (7) hours: 7:30 am - 2:30 pm for elementary students, and 8:30 am - 3:30 pm for middle school students. During Year 1, grades K-6 will operate on one combined schedule. Early care and aftercare will be offered from 7 am until 6 pm, and we will provide parents with a combined drop-off/pick-up time for those with siblings.
- The daily schedule includes core content courses, homeroom, lunch, recess, and protected time for MTSS.
- The 7-hour school day includes lunch and recess (K-5) of approximately fifty-five (55) minutes. The remaining three hundred and twenty (320) minutes include the instructional time for core courses and language instruction, including electives blocks.
- The middle school day consists of a lunch block and social time of thirty (30) minutes and forty (40) minutes for homeroom/advisory and passing between periods. The instructional day consists of three hundred and fifty (350) instructional minutes.
- Sample school calendars and daily master schedules for both elementary and middle school are included as Appendices D and E.

This schedule is optimal for learning because it provides plenty of protected instructional time for standards-based learning, exploratory projects, and electives and guaranteed time for remediation or acceleration during the school day. It also allows for early care and aftercare for families who require it, and the aftercare program will include academic/homework support.

**Q124. Describe a typical day for a teacher and a student in the school's first year of operation.**



### Typical Teacher Day:

On a typical day, a teacher will arrive at school prepared to teach engaging lessons and serve their school community through quality instruction and thoughtful feedback to students and their families. Teachers will have morning duties, including morning bus/carline arrival or tutoring for struggling students. Teachers will begin each class or homeroom with a short check-in with the students to ensure that all the students are ready to learn. The teacher may note if a student does not seem prepared or well or needs a particular check-in after class begins. After setting the tone for the day, the teacher will start class by communicating the goals and learning objectives for the lesson and making sure students are engaged and ready to participate. The teachers will reference their configuration boards, including daily (weekly) learning targets, standards, and activities. Teaching will include a mini-lesson with the whole group and then allow students to move to small group activities (centers), enabling the teacher to meet with small groups or individuals and support their learning process. The students' activities will be standards-based, aligned with the NCSCOS, and connected to the learning objective. Small group activities should reinforce the daily lesson through practice and extension and require students to apply knowledge and then practice what is being taught and ask questions. The closure of the class will include a return to the whole group and will consist of some type of mini check for student understanding. The teacher will monitor individual and group progress towards mastery and determine which students need one-on-one or small group attention for the next lesson to scaffold learning or provide opportunities for advancement and challenges. GSCA believes that effective teachers crave professional development and the opportunity to work with others on their team. Therefore, teachers will have a common planning time to meet with their teams, discuss student progress in each class/subject, and share best practices. Teachers can also review interdisciplinary themes for workforce education during this time and work on creative ways to incorporate them into the daily lesson routines and increase time on task to maximize student learning. Some days, common planning time may include data chats or MTSS team meetings to support struggling students. The extended common planning time built into the master schedule also gives teachers time to provide one-on-one remediation for children moving through the three tiers of MTSS. In addition to the prepared lesson plans that consider the variation in students' academic abilities, learning styles, and knowledge. Specialized electives teachers need to keep in mind that they teach both subject content and exploratory projects and modules. A successful educational program calls for a school culture that promotes workforce preparedness learning and supports its mission. The right mindset is the critical foundation since students will be gaining a working knowledge of the content aligned with a career focus while developing reading, writing, mathematical and science skills. Learning skills through



these projects, modules, and activities pushes students to think more thoroughly and enhance additional cognitive growth. Consequently, effective teaching will lead to increased student academic achievement. For the School's inaugural year, all teachers will work on developing the School's culture, setting expectations for student behavior, and getting to know our students through their achievement data and progress. Teachers will also develop relationships with the families to support all students when they enter our program. During recess, teachers will build positive relationships with their students by informally engaging with them and encouraging them to build strong, positive relationships with their peers.

#### Student School Day:

GSCA will hold high expectations for all students, both academically and behaviorally. When they walk in the door, all students will be in their school uniform, ready to learn, and know that they are an integral part of a supportive learning community. Early care students will begin the day with breakfast in the café as early as 7:00 am. Other students may begin to arrive during the carline and grab breakfast before heading to class by 7:45 am. At 8:00 am, students are expected to be in their classrooms, ready for their morning meeting. As discussed above, GSCA will provide specific instruction and support to ensure students are respectful, culturally responsive, and socially-emotionally in a place to learn. These daily check-ins will help school staff identify any struggling students, and they will make time to provide support. Each class/homeroom will include a short discussion to set the day's learning goals and objectives. Students will receive reminders on the configuration board of the learning targets and planned activities to set the pace for the day. The workshop model begins each unit with a mini-lesson for the whole group and then moves into small groups and student activity centers. The entire group is often held on the carpet (lower School) or in a circle of desks (Upper School). Depending upon the grade level or content area, small groups may include hands-on projects, buddy reading, team writing, or collaborative workgroups. During small groups (centers), students will practice the skills they are learning with their peers, reinforcing a solid community, building peer relationships, and providing a safe learning environment where students applaud practice and experimentation. During this time, students will also have the opportunity to meet individually or in small groups with the teachers for scaffolding, remediation, enrichment, and support. Students make the most gains in small group sessions and frequently feel that this is their special time with their teacher. Towards the end of the class or lesson, students will be brought back into a whole group setting to share what they have learned or worked on. The teacher uses this time to praise learning, reinforce skills and check for understanding and mastery. Students will continue to practice until it is time for individual assessments in the form of formal or informal assessments. The workshop model is a unique classroom setting. It is a place where



student work and achievements are shared and celebrated each day. Each day, students will have core classes, electives, lunch, and recess (K-5). GSCA will serve lunch in the café and be part of the National School Lunch Program to ensure that access to meals is not a barrier to enrollment. Recess will be a planned part of the master schedule and will be a time students can engage in physical activities during this downtime. One additional feature our K-5 students will have is their interdisciplinary electives block, which includes various future workforce activities, including financial literacy, coding, gaming, construction, engineering, electrical design, and much more. During this time, students will create a deep connection with their passions and natural talents and experience the interdisciplinary approach to learning while building skills in grade-level standards and their exploratory endeavors.

**Q125. Will this proposed school include a high school?**

- Yes
- No

**Q131. Attach Appendix B: Curriculum Outline per Grade Span (for each grade span the school would ultimately serve). One sample curriculum outline (in graph form) in the Appendices for one core subject (specific to the school's purpose) for each grade span the school would ultimately serve.**

Upload Required File Type: pdf, image, excel, word, text Max File Size: 30

Total Files Count: 5

Applicant Evidence :


Appendix B Curricul...

Uploaded on **4/28/2022**  
by **Laura Howell**

**Q132. Attach Appendix D: Yearly Academic Calendar (minimum of 185 instructional days or 1,025 hours)**

Upload Required File Type: pdf, image, word Max File Size: 30 Total Files Count: 3



Applicant Evidence :


Appendix D Calenda...

Uploaded on **4/26/2022**  
by **Laura Howell**

**Q133. Attach Appendix E: Daily and Weekly Schedule** Provide a sample daily and weekly schedule for each grade band (K-5, 6-8, and 9-12) the school ultimately plans to serve.

Upload Required File Type: pdf, image, excel, word, text Max File Size: 30

Total Files Count: 15

Applicant Evidence :


Granite K-8 daily-we...

Uploaded on **4/26/2022**  
by **Laura Howell**

## 9.2. Special Populations and "At-Risk" Students

**Q134. Explain how the school will identify and meet the learning needs of students who are performing below grade level and monitor their progress. Specify the programs, strategies, and supports you will provide for these students.**



GSCA staff will identify struggling learners early and provide appropriate and timely interventions. The Principal will ensure that a quality MTSS and special needs assessment and data reporting program are in place. This will be an integral part of the Principal's evaluation. GSCA will use the MTSS model and early-warning indicators to identify students with academic deficiencies, disabilities, and/or behavior problems or at risk for underachieving. This program provides a structure for teachers to address individual student needs. MTSS will enable teachers to improve the instructional support needed for each student to succeed at GSCA.

The seven essential components of the most utilized MTSS model are:

1. Identifying potential problems using individual screening.
2. Analyzing the problems and determining the nature of any discrepancy.
3. Using a multi-tiered approach to establish unique performance goals for the student.
4. Develop a relevant intervention plan to monitor student progress.
5. Collect data from the process of monitoring the plan.
6. Evaluating the effectiveness of the interventions.
7. Analyzing and adjusting (if needed) the intervention strategies.

The MTSS model is a circular system of evaluating students' needs to follow their progression and adaptation to advance their achievement goals or adjust the instructional model as needs develop. GSCA will implement a three-tiered approach to instructional delivery, which provides services and interventions to students at increasing intensity levels based on progress monitoring and data analysis. This approach includes a variety of instructional strategies using both core instructional and supplemental materials, the scaffolding of concepts, differentiated instruction, and interventions of increasingly higher intensity based on the differentiated needs of students.

As part of Tier 1 intervention, all students will receive instruction using high-quality, research-based instructional materials provided by qualified educators to ensure that their difficulties are not due to inadequate instruction. All students will be initially screened to establish an academic and behavioral baseline to identify struggling learners easily. Students identified as being at-risk through these screenings or from School, State, or federal assessments will receive supplemental instruction during the school day in the regular classroom.

Staff and parent referrals will also play a significant role in the MTSS model of interventions. GSCA will implement a multilayer approach to assessing student needs and intervening to assist students in progressing academically. Although intervention time will vary with individual students, teachers will use standards-based measurements to monitor student achievement. Students who are not showing progress in the regular classroom will be moved to Tier 2 for more targeted interventions.



Students who continue to show too little progress after Tier 2 interventions will be considered for more intensive interventions as part of Tier 3. Students who still do not make adequate progress are then referred for a comprehensive evaluation and considered for eligibility for special education services under the Individuals with Disabilities Education Improvement Act of 2004 (IDEA 2004). The workshop model, which is founded on differentiation and small group instruction, is uniquely designed to provide tiered support every day. It will assist all learners in receiving instruction and resources aligned with "their present level of performance" and will be modified through the tiers.

GSCA will establish a partnership between the School and the families based on regular contact and transparency to ensure families and the school work together to monitor and improve student academic performance. As their child's first teachers, parents can provide important information that may affect the student both inside and outside of School because parents are often experts in planning and implementing interventions for their child. Involving parents allows them to understand the level of support in academic and behavioral areas that will increase/decrease intensity depending on the child's needs. Just as with assessment results, parents will receive frequent progress reports about their child's response and performance to the intervention implemented.

#### Identifying Students with Special Needs:

GSCA faculty will receive professional development related to laws and services for special needs students on an ongoing basis. Identifying children through MTSS and referrals from teachers, parents, and administrators will all be part of the training for staff and faculty. A parent of a child or a staff member may initiate a request for an initial evaluation.

Staff members will be trained in identifying and reporting students with disabilities. Parent consent will be obtained before an initial evaluation, which will

1. Be conducted within sixty (60) days of receiving parental consent for the evaluation; and
2. Consist of procedures:
  1. To determine if the child is a child with a disability.
  2. To gather the information that will help determine the child's educational needs.
  3. To guide decision-making about appropriate educational programming for the child.

The evaluation team consists of members similar to the Individualized Education Plan (IEP) team. As part of the initial evaluation, the evaluation team will develop an evaluation plan that will be summarized in an evaluation team report, which will include the following:



1. A review of all evaluation data on the child, including:
  1. Evaluations and information are provided by the parents of the child.
  2. Current school-based assessments, local or State assessments, and classroom and school-based observations.
  3. Data about the child's academic and school-related progress, including MTSS results.
  4. Data related to health, vision and hearing, social and emotional status, and motor abilities.

GSCA will provide prior written notice to the parents of a student with a disability that outlines any evaluation procedures the School seeks to conduct. In conducting the evaluation, GSCA will use a variety of appropriate assessment tools and strategies to gather relevant functional, developmental and academic information about the student, including information provided by the parent and staff that may assist in determining:

1. Whether the student is a student with a disability.
2. The educational goals, materials, and instructional methodologies that may best meet the needs of the student

GSCA will ensure that:

- Assessments and other evaluation materials used to assess a student:
  - Are selected and administered so as not to be discriminatory on a racial or cultural basis.
  - Are provided and administered in the student's native language or another mode of communication and in the form most likely to yield accurate information.
  - Are used for the purposes for which the assessments or measures are valid and reliable and used in a correct procedural fashion.
  - Are administered by trained and knowledgeable personnel; and
  - The parent/guardian will receive a formal written report of evaluation results, including:
    - Assessment results and educational implications.

**Q135. Describe the extent to which one or more of the founding board members has experience working with special populations (students with disabilities, students with 504 Plans, ELs, students identified as gifted, and students at risk of dropping out). If no founding board members have experience working with special populations, describe the school's pre-opening plan to prepare for special populations.**



Two of the Founding Board members are educators with close to 40 years of experience between them, including charter school experience, and one is also a licensed social worker. These board members currently serve on MTSS teams. They are well-versed in creating and implementing a plan for serving special populations, designing service schedules for EC or ELL students, and developing appropriate modifications for students with 504 Plans or AIG status. They can also assist the School in its initial years by creating a testing calendar with support for small groups and testing accommodations. These board members have committed to supporting pre-planning and working with School leadership if needed to ensure that the School is ready to open and service students' IEP, ELP, EP, or 504 from the first day of School. One of the priorities of this School is to ensure that all students are successful and have many avenues to find and express their talents through creative elective blocks that teach real-life skills and can serve as the cornerstone for future CTE tracks and support college or career intentions in the future. Three additional members are extremely passionate about special populations of students having equal access to superior education. They grew up with some form of learning disability or impairment and want a school that provides a different and better opportunity than they experienced. They will look to their colleagues and hold them accountable for ensuring those needs are met and will ultimately hold the School leader accountable for the compliance and service to those students.

**Q136. Explain how the instructional plan and curriculum will meet the needs of English Learners (EL), including the following:**

- 1. Methods for identifying EL students (and avoiding misidentification).**
- 2. Specific instructional programs, practices, and strategies the school will employ to ensure academic success and equitable access to the core academic program for EL students.**
- 3. Plans for monitoring and evaluating the progress and success of EL students, including exiting students from EL services.**
- 4. Means for providing qualified staffing for EL students.**



All parents/guardians of students enrolling in the School will complete the Home Language Survey (HLS) with their enrollment documents to immediately identify students who require assessment for English for Speakers of Other Languages/English Language Learner (EL) services. This standard form asks parents/guardians to answer three yes/no questions related to the student's home language and language background. A "yes" response to any questions indicates that assessment is required. Parents are advised that the student will need an aural/oral language assessment of English proficiency to determine eligibility and placement in the EL program if necessary. The student is then referred to the ELL committee for further screening. Based on the results of the WIDA assessment, if the student is found to need EL services, parents are notified of the placement, and the student's new additional services will begin. The School's ELL Committee may be composed of an EL teacher/Coordinator, administrator, classroom teacher(s), and parent/guardian of the ELL student. The committee will ensure that ELL plans are kept current and that students are being properly serviced. They will conduct performance review meetings as necessary to determine placement and/or promotion. Student performance will be evaluated in the student's dominant language and English assessments until independence in English has been reached. The ELL Committee will strive to ensure proper and immediate placement of all students qualifying for EL services and that it will be effective in meeting the needs of the students it serves. The fall WIDA will be administered to determine which students need to be placed into the EL program, and the EL Committee will create a plan for their instructional needs and accommodations. English instruction will include developing the four basic language skills of listening, speaking, reading, and writing. In addition, EL instruction will all be provided in English. Conversational language is typically initially mastered with complex academic language requiring additional time and study; therefore, EL services and assistance will support EL students in all academic subject areas as outlined by the State and supported through the School's EL Plans. All students at the School will have access to the full range of programs and educational opportunities provided by the School, without regard to race, gender, religion, ethnicity, socioeconomic status, academic level, native language, disability, or current language proficiency. The School will implement an EL program of instruction to meet the needs of the EL population to be served. Program instruction will develop the student's mastery of the four language skills, including listening, speaking, reading, and writing.

Following state guidelines, the School will provide EL instruction as well as second language strategies in all other core subjects, including but not limited to mathematics, science, social studies, and relevant electives. At the elementary level, EL students shall be provided basic EL programming for the minimum number of hours per day or week, as specified in the individual ELP student plan. Such plans shall delineate that each student receives, at minimum, the amount of basic EL



instruction that may include special or alternative language arts necessary to attain parity of participation with non-EL students in language arts. GSCA will ensure that the English Language Learner shall not receive less than the total amount of instruction a non-EL student receives at the same grade level. Basic EL services shall seek to prepare students for reclassification as soon as the student has attained a sufficient level of English language proficiency and academic achievement according to the entry and exit standards. All students identified as English Language Learners will participate in the ACCESS for ELs (Assessing Comprehension and Communication in English State-to-State for English Language Learners). The ACCESS for ELs will be administered to all students identified as Limited English Proficient enrolled in Kindergarten through grade 12. This annual spring assessment is a requirement for Limited English Proficient students to meet the US federal requirements for monitoring and reporting ELs' progress toward English language proficiency. The assessment is used to monitor student progress in speaking, listening, reading, and writing English. In addition, teachers and administrators use this assessment to enhance instruction and create a new EL plan for students' individual needs. When official results are received by SCSA staff, each family will receive a Parent Notification Letter that includes the student's ACCESS test results. A new EL plan will be developed at the beginning of the following school year based on the latest scores and student performance.

The School's model will help serve our EL students, who will have an opportunity to use technology and hands-on learning methods in the classroom to support and scaffold their learning. Students will be served depending upon their needs and initial class identification. The School will have an EL facilitator onsite who will manage testing, placement, services, and EL team meetings. The EL facilitator will communicate with the general education teachers' needs and provide them with instructional strategies, alternative materials, and support. This facilitator will also provide small group resource support for EL students and/or a co-teaching model, as needed. Together, these small groups will be placed with students of a similar home language or students at a similar acquisition level. The School will also purchase additional resources and materials that will help support the language learners. A platform will be bought and used to create student EL plans, provide strategies that can be used for instruction, and provide translating oral and written translating services for effectively communicating with families. Other materials and resources will include but are not limited to picture cards, bilingual dictionaries, math/science manipulatives, vocabulary word workbooks, and the EL packs aligned to the core curriculum. These EL resources will include appropriate testing materials and intervention materials that support the learner on grade-level standards towards mastery of the North Carolina Standards.

The School will have EL endorsed staff to support the English Language learners in a variety of ways:



- Differentiated instruction provides several learning options or different paths to learning, which help students take in information and make sense of concepts and skills.
- Effective use of technology. Greater access to technology and computer-assisted learning will foster greater engagement, make learning more accessible, and scaffold instruction.
- EL supports texts through Fountas and Pinnell.
- Auditory, visual, and kinesthetic activities to reinforce concepts and directions (for example, incorporate movement into classroom lessons).
- Visuals to clarify meaning and check for comprehension.
- Hands-on experiments and activities that reinforce content through application.
- Experiential activities to build upon what students already know.
- Activities that are student-centered and provide frequent opportunities for students to practice receptive and expressive verbal communication skills.
- Open-ended sentences that encourage students to speak and collaborate.
- Student role-playing techniques require verbal and nonverbal communication skills practice.
- Cooperative group activities will encourage EL students to work with English proficient students and practice speaking and listening.
- Summarize stories and illustrate them to check comprehension and address different models
- Use graphic organizers such as charts, tables, maps, graphs, timelines, flowcharts, etc. These visual learning tools will stimulate verbal communication and simplify content.
- Use games that encourage verbal and/or written English language interactions; and
- Use manipulatives to help students understand concepts and make ideas more relevant and concrete.

The School will use performance accountability best practices to ensure State and Federal laws compliance. The School is accountable for the achievement of individual subgroups and will also utilize the WIDA to measure the growth of students classified as EL students. All EL students participate in statewide assessments with the approved State accommodations. The School will review WIDA ACCESS, EOG, and I-Ready scores to help determine EL progress and proficiency. The School will focus on ensuring the academic success of our EL population. Additionally, classroom teachers will evaluate student achievement by monitoring daily performance, classroom grades, progress reports, and report cards throughout the year. Additional monitoring of student progress will be accomplished using alternative/authentic assessment. This will be completed using portfolio development for the programmatic evaluation and determining individual student needs. These ongoing monitoring processes assist in the assessment of appropriate instructional programming.

Exit Criteria/Procedures:

A student may be eligible for an exit based upon teacher recommendation/observation. When this



happens, the child's name is given to the EL assessor responsible for the reevaluation process and procedures designed to determine exit eligibility. Also, a student may be eligible for the exit once the student reaches proficiency on each subtest of the WIDA for grades K-2. For grades 3-8, a student must also meet expectations in grade-level reading. The School will follow all exit procedures and policies developed by the State. The School will also utilize the support made available from NCDPI to develop, review, and implement placement, programming, and existing criteria. English Proficient/EL and enrolled in an EL program may be re-assessed utilizing additional information at the request of a teacher, counselor, administrator, or parent. The EL Committee may use other assessment information to determine that the student should be exited from the EL program if the committee determines that other instructional programs or a combination of instructional programs better meet the student's needs. When data provides evidence that a student is ready to exit the program, an EL Recommendation Form must be completed and signed by the EL Committee members present at the time of the meeting. The assessment instruments' documentation and the justification for such action shall be retained as part of the EL student file. Copies will be given to the parents in the native language when feasible.

**Q137. Explain how the school will identify and meet the needs of gifted students, including the following:**

- 1. Specific research-based instructional programs, practices, strategies, and opportunities the school will employ or provide to enhance their abilities.**
- 2. Plans for monitoring and evaluating the progress and success of gifted students; and means for providing qualified staffing for gifted students.**



#### Gifted and Talented Students:

All enrolled students identified as Gifted (or AIG) will be evaluated for progress and placed in appropriate classes or flexible groups to ensure appropriate education. They will receive additional enrichment time to meet their goals. Additionally, the workshop model allows each teacher to modify and accelerate their instruction so that they are challenged and allowed to work at their present level of performance. GSCA will identify intellectually gifted and talented students through ongoing assessments and classroom observations. One teacher will be appointed as the AIG Coordinator, and homeroom teachers will work closely with the coordinator and parents to identify and develop individualized plans to meet the needs of academically gifted and talented students. Specifically, teachers will work with identified gifted students to go beyond state and national standards and provide accelerated, engaging activities. These students may have additional parts of their electives block instruction to complete advanced-level projects, modules, presentations, or activities. Teachers will strive to teach gifted students from where they are academics, not from where the curriculum states they should begin. AIG students will be serviced according to the policies and procedures provided through the approved AIG Plan. An appropriate Educational Plan (EP) will be created for all students identified as gifted as indicated by NC General Statute § 115C-150.5 - 115C-150.8, Article B. During an EP meeting, a plan will be created to detail the specialized educational needs of the student. Members in attendance of this meeting may include parents, the regular education teacher, a teacher of the gifted, an administrator, and a school psychologist.

The School shall screen all students by reviewing census aptitude and achievement test scores. Referrals from administrators, parents, teachers, and students must be accepted. Initial screening does not guarantee placement. Evidence of Need for Services is established by reviewing student report cards, effort, scores on state and district testing, scores on individual achievement testing, review of social/emotional needs, and scores on the gifted characteristics scales. If a student who had an active gifted plan in a previous school district in another state transfers and enrolls in our school within the same school year, the School must provide the student with services comparable to those described in the student's gifted plan from the previous school district. These will be aligned with the approved AIG Plan.

The Educational Plan may include:

- Present levels of performance.
- Goals or short-term objectives.
- Specially designed instruction to be provided.



- Indicators for measuring and reporting progress towards goals.
- Student strengths and other considerations or special needs.

In a review of research on gifted students in the regular classroom, Johnson and Ryser (1996) describe five areas for differentiation:

1. Modifying content.
2. Allowing for student preference.
3. Altering the pace of instruction.
4. Creating a flexible classroom environment.
5. Using specific instructional strategies.

The following have been established as effective strategies (Johnson & Ryser, 1996):

- Posing open-ended questions that require higher-level thinking.
- Modeling thinking strategies, such as decision-making and evaluation.
- Accepting ideas and suggestions from students and expanding on the
- Facilitating original and independent problems and solutions
- Helping students identify rules, principles, and relationships.
- Take time to explain the nature of errors.

A gifted-endorsed staff specialist will provide the instructional staff with strategies for meeting the additional needs of the student. The GSCA model naturally lends itself to enrichment at all of the highest levels of Bloom's Taxonomy. Truly gifted students may demonstrate a myriad of different skills or strengths. The gifted students will have the opportunity to work on above-grade-level tasks and be given appropriate extension and enrichment activities.

Gifted students will have yearly evaluations and team meetings. The team will review student progress towards goals and recommend additional modifications to the educational environment or curricular model as deemed necessary to challenge the student, meet the student's individual social and emotional needs, and promote academic achievement.

AIG students will not be pulled from the classrooms. Instead, they will have accelerated plans developed by the classroom teachers because the Founding Board believes that general education and AIG education should be connected. At the same time, teachers will ensure that gifted students accelerate academically as quickly as their academic skills will allow. GSCA teachers will develop a plan for gifted students by consulting and collaborating with the AIG Coordinator, parents, outside resources with expertise in gifted instruction, and the student. Teachers will provide challenging classroom assignments and encourage students' emotional, social, and academic growth. Teachers



of AIG students will keep up to date on teaching gifted children by frequently reviewing instructional methods that target the gifted, attending seminars offered by the various gifted associations, and attending PD sessions delivered internally from the AIG Coordinator or externally as appropriate. Teachers will be encouraged to work with other teachers who have successfully taught and motivated gifted and talented students, meeting through social media and school visits. GSCA also plans to provide and guide AIG students to utilize web-based assessment and learning programs. Those programs offer the advantages of on-demand, self-paced, one-on-one enrichment and activities that extend beyond classroom differentiation levels and are integrated with the workforce mission.

### 9.3. Exceptional Children

The public charter school cannot deny admission to any child eligible for special education services as identified under the federal legislation *Individuals with Disabilities Education Improvement Act (IDEA)*, *IDEA regulations*, and *Article 9 115C of the North Carolina General Statutes, North Carolina Policies Governing Services for Children with Disabilities*. **All public schools are responsible for hiring licensed and 'highly qualified' special education teachers pursuant to law.** *Public schools are required to provide a full continuum of services to meet the unique needs of ALL students with disabilities.*

**Q138. Identification and Records** Explain how you will identify students who are enrolled within the charter school that have previously been found to be eligible for special education services or are protected under Section 504 of the Rehabilitation Act.



GSCA will fully comply with the requirements of the Individuals with Disabilities Education Act (IDEA) Public Law 105-17, Section 504 of the Rehabilitation Act, the Americans with Disabilities Act (ADA) 2008, the Title III of the Elementary and Secondary Education Act (ESEA), and NC General Statute 115C-106, Article 9, which include appropriately certified personnel, the definition of educational services, documentation, assessments, adaptations, and modifications. GSCA will abide by the provision of a Free and Appropriate Public Education (FAPE) under the requirements of IDEA and Section 504.

GSCA will also comply with all federal and state laws, per IDEA 613(e) (1) (B), regarding accommodations for students with disabilities and will not discriminate against individuals who are believed to have disabling conditions. Student records are protected by the Family Educational Rights and Privacy Act (FERPA), federal regulations which assign rights to students and responsibilities to educational institutions regarding students' education records. The School will abide by all provisions of the Act, which governs the maintenance and release of information from those records. The School will use only appropriate means to identify students with eligibility designations during the enrollment process from parents and during the formal enrollment process in PowerSchool. Record request forms will be used to request records from previous schools. Once the Registrar receives this signed form from the parent, it will be faxed/scanned to the previous School. If the records are not received promptly, a follow-up process will be followed with documentation of contact attempts. Student records will be maintained in locked fireproof cabinets in a secure area of the School. The School will comply with Family Educational Rights and Privacy Act (FERPA) and state policies related to reading, inspecting, and copying a student's educational records. All school employees will receive training, at least annually, related to the confidential nature of student records. In addition, the EC contact will receive training on the use of the Program Compliance Review (PCR) procedures and use this procedure as a self-evaluation tool. The School will identify newly enrolled students with a current and/or past due eligibility for special education services or who are protected under Section 504 of the Rehabilitation Act by utilizing the Exceptional Children Information and Accountability System (ECATS) or any new state system which tracks student information across School and district boundaries within NC. In addition, GSCA will request copies of IEP/504 and ask families to self-identify during the enrollment process or request complete academic records from the prior School to review for EC/504 designation indicators. The School will honor incoming students with an out of state eligibility and follow North Carolina procedures to determine eligibility for services based on NC criteria for eligibility. All students will be served according to the IEP/504/EP/ELP documents that follow them to our School until such a time that a new evaluation is required or deemed necessary. No students will be discriminated against during



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the enrollment process or their attendance in the School.

**Q139. Provide the process for identifying students who may be eligible for special education services as identified in the federal 'Child Find' mandate. Be sure to include how student evaluations and assessments will be completed. Include how the school will avoid misidentification of special education students.**



As a public charter school, GSCA will be open to all students who apply regardless of disability status, label, or services needed. Students with disabilities who attend GSCA will be served according to their Individualized Education Plan or other guiding document and will receive the same level of high-quality special education and related services support as in other similar public schools in North Carolina. GSCA will not discriminate against students with disabilities in recruitment, enrollment, or provision of services. Recommendations have been made in this section of the application to ensure the latest federal guidelines will be followed at GSCA. GSCA will adhere to the criteria for eligibility, reporting, and official records for accommodations under Section 504 and the IDEA. Compliance with applicable regulations. The School will work with the family or guardian of students who qualify for an Individualized Education Plan (IEP) in a teamwork fashion. The IEP will be the guiding document to ensure all accommodations deemed necessary by the team are being provided with the environmental and testing accommodations. GSCA will also comply with all required Child Find Procedures for School-aged Charter School Students. Child Find is a process through the Exceptional Children Division of the North Carolina Department of Public Instruction to identify, locate and evaluate children with disabilities who may need special education or related services. This includes children ages 3-21 who attend public or private schools. GSCA will publicly post information regarding the Child Find process and train staff to identify early-warning signals and report them to the MTSS Coordinator. Students who may be identified as “at risk” according to the Child Find process will receive all the support and procedural safeguards provided by the State and School. All parents will receive procedural safeguards at the onset of the evaluation process to ensure the parents are aware of the process of special education and their rights at any point during the process. GSCA will comply with all state and federal statutes, laws, regulations, and state-specific policies/procedures when serving students with special needs. The School will have a staff member assigned as the Homeless, Foster, and DSS liaison.

Specifically, GSCA will admit students with disabilities on the same basis as children without disabilities. GSCA does not discriminate in its admission policies or practices based on intellectual ability. GSCA will provide the specialized instruction and support that children with disabilities need to make developmentally appropriate progress and hire appropriately certified teachers to provide and coordinate any services required by an Individualized Education Plan or 504 Plan. The School will also use the MTSS process as previously detailed to identify students who may be eligible for services or who should be further along the continuum of interventions. A comprehensive evaluation may be requested if the interventions attempted at all tiers do not produce a satisfactory level of progress. A referral for students suspected of having a disability will be initiated by school personnel with supporting documentation when the following determinations have been made:



1. The activities described in the general education intervention procedures above have been implemented but have been unsuccessful in addressing the areas of concern for the Student;
2. The parents of the child receiving general education interventions requested, before the completion of the interventions, that the School conducts an evaluation to determine the child's eligibility for specially designed instruction and related services as a student with a disability.

If a teacher notices a new student is struggling, the School will reach out to the previous School and ensure that we have received all documents from the cum file, specifically if the MTSS or eligibility process was initiated previously. In collaboration with the Office of Charter Schools and NCDPI, the School will conduct a child count each December 1st and April 1st. GSCA will follow all laws and immediately implement the IEP for all identified children needing specialized instruction before enrollment. In compliance with the federal Individual with Disabilities Education Improvement Act of 2004 (IDEA) and NC General Statute 115C-106, Article 9, Education of Children with Disabilities, establish written policies and procedures that will ensure that all enrolled children with disabilities and in need of special education and related services are identified, located, and evaluated. GSCA will inform parents of children applying to or enrolled in the School regarding special education services and programs and the process to be followed when necessary, and the School will provide Extended School day or Extended School Year services beyond the 180-day school year if such services are appropriate for the Student to receive a free appropriate public education (FAPE).

**Q140. Provide a plan detailing how the records of students with disabilities and 504 Accommodation plans will be properly managed, including the following:**

1. Requesting Records from previous schools
2. Record Confidentiality (on-site)
3. Record Compliance (on-site)



As the School does not discriminate against any student enrolling in the School, the enrollment documents request will be the first vehicle to request students' records from previous schools. The enrollment package will include a records request form that Parents will sign to allow the transfer of confidential records. The Registrar will continue to send requests for records during the enrollment and registration period and through the beginning of the School year. Parents will be encouraged to deliver any records of student evaluations, individualized plans, and meeting minutes to ensure that GSCA provides the services and accommodations necessary for the Student's success. The EC Coordinator will also utilize the NC information system, ECATS, to pull information regarding students' records to ensure they comply and the School is prepared to deliver the strategies and supports contained in the Plans. In addition to utilizing ECATS, the EC Coordinator will request additional student information from the Student's previous school to ensure that the School has a complete or near-complete history of the Student's services. All Student records will be maintained in locked fireproof cabinets in a secure area of the School. The School will comply with Family Educational Rights and Privacy Act (FERPA) and state policies related to reading, inspecting, and copying a student's educational records. All school employees will receive training, at least annually, related to the confidential nature of student records. The Schools EC contact will receive training on using internal Compliance Review procedures and use this procedure as a self-evaluation tool. Access to student records will be made available as deemed necessary for the Student's education and will be limited to the general education teacher, the EC team, and the administration. Files will be viewed in the office or conference room, and access will require an official "sign-in and sign-out" for records from the Registrar. Records will be maintained according to the current NC statute and according to the Board operations policies, which speak to record retention, FERPA, and all areas of compliance. Lastly, the annual and EC fiscal and desk audits will measure and report compliance scores and require corrective action if it is determined that the School needs improvement in this area.

**Q141. Exceptional Children's Programming Explain how you will meet the learning needs of students with mild, moderate, and severe disabilities in the least restrictive environment possible.**



Students with disabilities will be educated in the least restrictive environment relative to the student's IEP and accompanying determination based on the aggregate of the team's collection information, discussion and ultimately conclusion on this important component of the student's educational plan. Such an environment might be within the general education classroom for 100% of the time with their non-disabled peers, special education environment, or in a separate setting. GSCA believes the School's initiative provides the model and the curriculum that truly enables all students to work within the least restrictive environment. Because GSCA's program offers all learners the opportunity to learn and demonstrate mastery and achievement in various ways, students will be able to work more often in the inclusion model that is the right fit for their learning style. Classrooms and working groups are designed to be flexible and fluid, and the electives provide ample opportunity for choice and excellence in various trades, skills, and career paths. This model allows for collaboration between the EC and general education teachers to provide a cohesive team to support student progress towards IEP and grade-level goals through ongoing progress monitoring. All students will have equal access to grade-level curriculum and standards to ensure the School is doing everything it can to meet the students' needs and ensure they have access to the same general education curriculum and courses. The School believes that the least restrictive educational environment is the most effective placement for all its students. Students will only be removed from a class with non-disabled peers when the nature and severity of the disability hinder achievement in a regular classroom setting. An inclusion model with EC support will be implemented as often as possible to support this belief. Decisions related to students with disabilities will be made regarding Section 504 of the Rehabilitation Act of 1973, the Individuals with Disabilities Act, and Free Appropriate Public Education (FAPE). The School accepts and agrees to implement the State's policies regarding Exceptional Student Education. The School will ensure that the appropriate personnel will be trained in using the IEP program currently being used (ECATS). Instructional services for students identified as EC will include modifications of the existing curriculum, methodologies, and materials. Accommodations will be provided by both the general education teacher and the EC teacher team to facilitate student acquisition of the necessary skills and competencies outlined in their IEP. It is expected that these interventions will allow students to achieve a variety of the School's regular program expectations to the degree that is possible based on their level of exceptionality.

GSCA will implement research-proven best practices in the instruction of EC students, and instructional staff will participate in professional development opportunities as necessary. Teachers will be encouraged to implement differentiated instruction for all students and will have the opportunity to attend professional development workshops specific to the unique needs of their



students. Various supports will be provided depending upon the students' needs and as dictated in the IEP. For example, students may be provided with "push-in" support in the general education classroom, or they may be "pulled out" to a resource room. They may also be provided a small group "self-contained" classroom, and they may receive a variety of other related services, including Speech, PT, OT, or other assistive technology or supports. This may include students who require medical support as well. Properly trained staff will provide direct and related services to students as dictated in the IEP, 504 Plan, EP, ELP.

**Q142. Describe the specific educational programs, strategies, and additional supports the school will provide to ensure a full continuum of services for students with disabilities. How will the school ensure students' access to the general education curriculum?**



The School will provide students with a full continuum of services both within the general education classroom and through pull-out for additional services, such as speech, physical therapy, and occupational therapy. Students with disabilities will be educated in the least restrictive environment and will only be removed if the nature and severity of the disability are such that education in regular classes, with supplementary aids and services, cannot be achieved satisfactorily. Similarly, gifted students will be educated in an environment that promotes acceleration. The School will utilize the State policies, including the procedures for identifying students with special needs, developing Individualized Education Plans and 504 Plans (as applicable), and providing a full range of services. Special Education students will be provided with programs implemented by federal, state, and local policies (specifically, the Individuals with Disabilities Education Act (IDEA); Section 504 of the Rehabilitation Act of 1993; Sections 1000.05 and 1003.57.) The School will serve students with disabilities whose needs can be met in the classroom mentioned above environments. It commits to educating all students in the community without regard to gender, race, heritage, exceptionality, or disability. All students can be active learners in 21st-century learning environments when they have:

- Instructional support that invites their engagement.
- Instructional accommodations that change materials and procedures, but not the standards.
- Assistive technology ensures access to the standards and the curriculum.

As dictated by their IEPs, students will be serviced via classroom push-in services, resource pull-out services, daily scheduled remedial time blocks, and school-provided supplemental tutoring. Additional services may be provided when indicated in the Student's IEP, including occupational therapy, speech, or language services. These additional services may be handled internally or contracted out, depending on the nature of the service and the number of students that need the support. An EC Specialist will oversee all aspects of the School's EC program and collaborate with other EC teachers, general education teachers, and EC support staff to maximize instructional cohesiveness and ensure the least restrictive environment is provided to all qualified students according to need and exceptionality. EC teachers will be hired as needed based upon enrollment. The program will be fluid, dictated by the number of participating students and each Student's individual needs. The School will provide a full continuum of services "to meet the needs of students with disabilities for special education-related services." Children with disabilities who attend public charter schools and their parents retain all rights under 34 CFR Sec.300.209 and NC General Statute 115C-106, Article 9. Appropriately certified and trained personnel will provide for the needs of all students through the EC program that will be implemented at the School. Staff will be assigned to meet the needs of students as prescribed in their current IEPs and written to those who qualify for



services during enrollment, including academic remediation and reinforcement, Speech, PT, OT, and other services. The School may elect to internally hire (full time) or contract for special services depending upon EC students' needs and total enrollment. An appropriate amount of financial and human resources will be identified in the budget to support this continuum of services for students with disabilities. The School will work hand in hand with the Authorizer and the Office of Charter Schools and state accountability measures and will participate in training and support offered through NCDPI.

GSCA believes the School's initiative provides the model and the curriculum that truly enables all students to work within the least restrictive environment. GSCA's program offers all learners the opportunity to learn and demonstrate mastery and achievement in various ways. Students will be able to work more often in the inclusion model that is the right fit for their learning style. Classrooms and working groups are designed to be flexible and fluid, and the electives provide ample opportunity for choice and excellence in various trades, skills, and career paths. This model allows for collaboration between the EC and general education teachers to provide a cohesive team to support student progress towards IEP and grade-level goals through ongoing progress monitoring. All students will have equal access to grade-level curriculum and standards to ensure the School is doing everything it can to meet the students' needs and ensure they have access to the same general education curriculum and courses.

**Q143. Describe the methods and support systems that will be in place to ensure students with disabilities receive a Free and Appropriate Public Education (FAPE).**



A free and appropriate public education will be provided to every exceptional Student enrolled in the School. That is, the School will be provided to all students at no cost to parents (free); suited to the individual needs of the child (appropriate); provided by and paid for by the public education system (public); include all core content, special programming, and extracurricular activities (education). Operating under the auspices of the Charter Authorizer, the School will assume responsibility for programming and delivering related services to all exceptional students, as identified in the Student's IEP, ELP, or EP, with adherence and fidelity to the requirements under federal, state, and local statutes and with provisions further detailed in the paragraph that follows. Students with disabilities will be educated in the least restrictive environment as depicted on their most current plan documents. They will only be segregated if the nature and severity of the disability are such that education in regular classes, with the use of supplementary aids and services, cannot be achieved satisfactorily. Similarly, gifted students will be educated in an environment that promotes acceleration. The School will utilize the and State policies, including the procedures for identifying students with special needs, developing Individualized Education Plans and 504 Plans (as applicable), and providing a full range of services. Special Education students will be provided with programs implemented in accordance with federal, state, and local policies (specifically, the Individuals with Disabilities Education Act (IDEA); Section 504 of the Rehabilitation Act of 1993; Sections 1000.05 and 1003.57.

#### 504 Plan Procedures:

A student is entitled to FAPE and may be entitled to Section 504 accommodations if he or she has a physical or mental impairment that substantially limits one or more major life activities.

The Child Study Team will follow all established CST procedures in determining if a student needs to be referred for a possible 504 Plan and services. A 504 may be written and implemented for a child who suffers from any medical or related condition that negatively impacts his or her academic or behavioral performance.

The eligibility/ineligibility is based on a variety of sources. Section 504 eligibility sources may include teacher observations, information from parents, information from medical providers, standardized test scores, grades, and/or other pertinent information. Parents must receive notice of the Section 504 meeting and be invited to attend. Parents and students should be encouraged to attend the meeting and provide relevant input that helps the committee make decisions.

Section 504 teams that convene for annual or interim meetings will consist of the parents, the Student, the school administrator or designee, and school personnel familiar with the Student, such



as the Student's teacher or counselor.

The School will work with NCDPI and "ensures all schools provide a free appropriate public education to all students with disabilities by complying with state and federal guidelines." This includes overseeing the protection of students' rights under Section 504 of the Rehabilitation Act and Homebound Services as IEP Placements: House Bill #1682. The School understands it is responsible for ensuring the accuracy and timeliness of all required state reporting measures. The educational program for exceptional students will include and adhere to the principles of the law as follows:

- **Appropriate evaluation:** Evaluations will occur within appropriate timeframes and in accordance with published guidelines.
- **Individual Education Plans (IEP) and Educational Plans (EP):** Plans for both Special Education and Gifted students will be developed and maintained. Meetings will be held according to the NCDPI's guidelines.
- **Parent/Student Participation in Decisions:** Including, but not limited to, giving consent for evaluation and initial placement, helping design the IEP, and helping the School to understand their child better.
- **Procedural Due Process:** A non-discriminatory policy regarding the eligibility, identification, location, placement, and evaluation process will be utilized. Adherence to procedural guidelines will also be used for these processes to maintain the integrity of FAPE. When in question, due process hearings may be initiated by a parent or the district on the proposal or refusal to initiate or change the Student's identification, evaluation, or educational placement or the provision of a free appropriate public education.

**Q144. Describe how implementation of the Individualized Education Plan (IEP) will be monitored and reported to the student, parents, and relevant staff.**



### Developing Individualized Education Plans:

Students will be guaranteed free and appropriate education and evaluation and consequent placement and implementation of an appropriate IEP. The written individualized education plan for each Student will include measurable annual learning goals and behavioral goals that may involve the evaluation of behavior through a Functional Behavior Assessment (FBA) and the development of a Behavior Intervention Plan (BIP). Program components include specialized instruction and related services, goals, and progress reports to parents on goals, diploma options, and curriculum, whether standard and/or modified. Assessment may also be addressed therein. Supplementary aids, related services, necessary accommodations, and modifications will be delineated in this written plan. Staff members will be trained in identifying and reporting students with disabilities. Parent consent will be obtained before an initial evaluation. The initial evaluation:

1. Will be conducted within ninety (90) days of receiving parental consent for the evaluation; and
2. Will consist of procedures:
  1. To determine if the child's eligibility
  2. To determine the educational needs of the child.

The evaluation team consists of members similar to the Individualized Education Plan (IEP) team. As part of the initial evaluation, the evaluation team will develop an evaluation plan that will be summarized in an evaluation team report, which will include the following:

A review of all evaluation data on the child, including

1. Evaluations and information are provided by the parents of the child.
2. Current school-based assessments, local or state assessments, and classroom and school-based observations.
3. Data about the child's academic and school-related progress, including MTSS results.

GSCA will provide prior written notice to the parents of a student with a disability that outlines any evaluation procedures the School seeks to conduct. In conducting the evaluation, GSCA will use a variety of appropriate assessment tools and strategies to gather relevant functional, developmental and academic information about the Student, including information provided by the parent and staff that may assist in determining:

- Whether the student is a student with a disability.
- The educational goals, materials, and instructional methodologies that may best meet the needs of the Student.



GSCA will ensure that assessments and other evaluation materials used to assess a student:

- Are selected and administered so as not to be discriminatory on a racial or cultural basis.
- Are provided and administered in the Student's native language or another mode of communication and in the form most likely to yield accurate information.
- Are used for the purposes for which the assessments or measures are valid and reliable and used correctly.
- Are administered by trained and knowledgeable personnel; and
- The parent/guardian will receive a formal written report of evaluation results, including:
  - Assessment results and educational implications.
  - Parental/Guardian rights and legal options (IEP team meeting attendance, right to refuse services, and other parental rights pertaining to the evaluation process).
  - A full description of all procedural safeguards is available.
  - A statement of any other factors relevant to the proposed action.

Developing the Individualized Education Plan (IEP):

If a determination is made that a student has a disability and needs special education and related services, after seeking consent for the initial provision of services, GSCA will develop an Individualized Education Plan (IEP) for the Student within thirty (30) calendar days of the date eligibility is determined. The special education teacher will progressively monitor the special education students to have accurate, up-to-date information on the present levels of academic achievement and functional performance to determine if the IEP goals are appropriate and achievable. GSCA will form an IEP team that includes:

- The Student's parents or guardians
- At least one general education teacher for the Student
- At least one special education teacher for the Student
- An LEA Representative who is familiar with the academic performance of the Student
- The Student, whenever appropriate.
- At least one interpreter of evaluations and/or assessments

GSCA will adhere to the following procedure to schedule IEP meetings:

1. The school special education teacher or designee will contact the parent and determine a mutually agreed upon date and time for the IEP meeting. The contact manner and meeting information will be verified and documented for the Student's record.
2. If the meeting cannot be verified with the parent/guardian, a meeting date will be set that will allow for a reasonable time for the parent/guardian to make plans to attend.



3. If, after three days, the teacher does not receive a written signed invitation response, a second invitation should be sent home again using a different method such as email, in person, or US mail.

4. If after two reasonable attempts and no response or the parent responds, they will not attend, the teacher may hold the IEP meeting. Likewise, if the parent indicates in writing that they will attend but does not show up for the meeting, the teacher may hold the IEP meeting. In developing each Student's IEP, the IEP team considers:

1. The relative strengths of the Student.
2. The concerns of the parents for enhancing the education of their child.
3. The results of the initial or most recent evaluation of the Student.
4. The results of the Student's performance on any state or school assessment programs.
5. The academic, developmental, and functional needs of the Student. The IEP will include all of the following:
6. A statement that discusses the Student's future and documents planning information.
7. A statement of the Student's present academic and functional performance levels.

Developing a Section 504 Plan:

If a determination is made that a student has a disability that meets the broader definition of disability under Section 504 of the Rehabilitation Act, the Student will receive accommodations in the general education classroom but may require out-of-class accommodations that do not rise to the level of special education services.

Monitoring the IEP:

During the duration of the IEP, all teachers and service personnel (General Education Teachers, Special Education Teachers, and Related Service Providers) will proactively monitor services outlined in the IEP to determine student progress. Service goals will be progress monitored on a daily and/or weekly basis and will be documented in ECATS, interactive data notebooks, or individual student folders.

A progress report will be shared with parents at the end of each reporting period. If one is needed before the end of a reporting period, one will be provided by the child's special education teacher. In addition, copies of all progress reports will be stored in the child's cum folder. GSA will also utilize the Student's annual review to reexamine growth made within the academic year based on data collected by all teachers and related service providers.

Transfer IEPs:



GSCA will provide comparable services to all children who enter the school with an IEP in place. Within thirty (30) days, GSCA will gather data and have an IEP team meeting to determine if the IEP is appropriate and can be accepted as written or if adjustments to the IEP are required to provide access to GSCA's general education. The Committee anticipates close work between the Transition teachers at GSCA and the Special Needs providers.

Service Delivery and Placement Options:

GSCA will ensure that students with disabilities will receive a Free and Appropriate Public Education (FAPE), and the school will utilize various strategies to address student needs. GSCA will create a system to ensure that a continuum of alternative placements is available to meet the needs of students with disabilities for special education and related services and that least restrictive environment (LRE) issues are considered in placement decisions. The least restrictive environment considerations will be based on meaningful evaluation data and appropriate placement options, and they will be determined at least annually.

Annual Reviews, Reevaluations, and Transition Services:

During annual reviews and three-year reevaluation, the IEP team will determine if the student does or does not continue to meet the criteria to be a student with a disability under IDEA. If the student does not meet the criteria for disability, the IEP team will determine if the Student meets the broader definition of disability under Section 504 of the Rehabilitation Act, which does not require the full level of special education services. If a student is determined to no longer qualify for or requires services, the Student will be exited from special education. If the team decides a transition plan is needed, the team will create one.

**Q145. Describe the proposed plan for providing related services and to have qualified staffing adequate for the anticipated special needs population.**



The School will provide students with a full continuum of services both within the general education classroom and through resources and pull-out for additional required services, such as speech, physical therapy, and occupational therapy. School personnel will be certified in the field (EC) and trained to provide appropriate, professional, and expert service to students with special needs. Depending upon enrollment, and the specific goals, strategies, and resources determined and articulated in the students' IEPs, 504 Plans, ELP, or EP staff may be school-based or contracted specialists to serve students. The School will closely monitor cumulative files and records during the registration process to ensure the right number of staff are in place to begin servicing students immediately. The School will utilize Federal, State, and local funds to ensure services are provided according to each child's Plan. As new students enroll or students' Plans are updated, the School will increase or revise the staffing structure and service delivery models to accommodate the needs.

#### Staff and Support Services:

GSCA will employ at least one full-time special education teacher in the first year of operations whose job is to provide services for students already identified and assist in identifying students who may have serviceable disabilities. The teacher will attend all appropriate school and local district(s) meetings for special education coordinators/teachers and all training to provide better services to the School, students, and parents. The teacher will serve as the contact person between GSCA and other agencies on special education matters, including state and federal reporting. The lead EC coordinator will attend the July training required for each School and bring back to the other teachers and support staff content from the training. The lead EC coordinator will begin to access ECATS as soon as the School can take in new student enrollment packets and prepare service delivery plans and schedules to ensure that students are served from the first day of School. The Student's IEP will specify any special circumstances, materials, equipment, or instructional methodologies that need to be provided to meet the Student's needs. GSCA will work with local Special Education Services to contract for any special services needed to fulfill any child's IEP that the School cannot provide. In addition, GSCA will contract with the appropriate related service providers, including but not limited to occupational and physical therapy, orientation and mobility, speech therapy, and psychological testing in the manner necessary to afford children with disabilities an equal opportunity to participate in school activities. The School will be prepared before the beginning of school to serve students with more significant disabilities in the event of the enrollment of such students. The EC teacher will be charged with establishing a potential contract with Occupational Therapists, Physical Therapists, and related services providers so that services can begin immediately if the IEP team determines that it is necessary.



## 9.4. Student Performance Standards

### Q146. Describe the student performance standards for the school as a whole.

All students will be expected to master the grade-level material each year. To achieve this, GSCA teachers will teach NC's Standard Course of Study in compliance with NC GS § 115C-81.5 and ensure that students are proficient in all subject areas. GSCA will be responsible for assessing each student throughout the school year in order to track their progress towards mastery and keeping records of such progress. GSCA will participate in all of the required assessments in the NC. Accountability Model (3rd-8th grade EOGS, Read to Achieve) Students will also participate in the NC Check-ins for Reading and Math for 3rd-8th grade and Science for 5th and 8th grade students. Teachers and administrators will use data generated by mClass for K-3 BOY, MOY, and EOY and the NCDPI Math assessments to align student performance goals. If a teacher is concerned about a student's academic progress or behavior, they will bring the concern directly to the Child Study Team, which is called the Multi-Tiered System Support (MTSS) Team. The MTSS Team includes the School Counselor and/or MTSS Director, the general education teachers, and the Principal. The MTSS Team will discuss the teacher's concerns and create an intervention plan, and the teacher will communicate the details of the plan to the parents. If a teacher has a concern about the promotion of a student, the teacher will communicate the concern to the MTSS team during the regularly scheduled data meetings. Similarly, if a parent has concerns about their child's progress, they may reach out to the Teacher or address their concerns during their scheduled conference and request a meeting with the MTSS team to determine whether the student is showing adequate progress and growth. If necessary, the teacher, parent, student, and MTSS team will meet to discuss the details of the student's academic progress, and an additional intervention plan will be put in place. Any student being considered for retention must have already been referred to the MTSS Team. At the end of the school year, the Principal will review all of the data in the student's file and a final decision will be made about the promotion or retention of the student. According to state law, third graders who fail to achieve reading proficiency may not be promoted unless a statutory exception applies. Parents of impacted students will be informed of the law's application.

### Q147. Explain the use of any evaluation tool or assessment that the proposed charter school will use in addition to any state or federally mandated tests. Describe how this data will be used to drive instruction and improve the curriculum over time for the benefit of students.



GSCA will participate in all mandated state testing and the NC Check-ins for Reading, Math, and Science. Teachers will also use the mClass reading assessment (BOY, MOY, EOY) and iReady for Reading and Math diagnostics and instruction. The ELA units of study also include Running Records and OPM tools aligned with the grade-level expectations for student learning and progress monitoring. Reveal Math also incorporates unit assessments and reviews aligned with grade-level standards to assess student content mastery. Combined, these will provide teachers with data they will need to adjust instruction based on student progress. Teachers will also use various formative and summative assessments and instructional pacing guides to support and scaffold children, drive classroom instruction, and help measure student growth and progress. Additional assessments will include chapter tests, teacher-created assessments, work portfolios, completed projects, and presentations with graded rubrics. This data will be used to create an intervention plan for any at-risk students identified through MTSS. The MTSS team will work with teachers during common planning time to review student progress and refine instructional delivery. This may involve class-wide review and scaffolding or moving a small number of struggling students into Tier 2 or Tier 3 remediation. Data will be collected and analyzed to assess whether Tier 1 instruction, the most critical foundation in the classroom, is effective and if the teachers have the capacity and pedagogical knowledge to build student achievement. Data will be used to improve student achievement and improve and build teacher capacity.

**Q148. Explain the policies and standards for promoting students, including students with special needs, from one grade level to the next. Discuss how and when promotion criteria will be communicated to parents and students.**



GSCA will comply with the North Carolina Accountability Model, including all BOG EOG, EOC, and Read to Achieve tests. The previous sections discuss the rigorous and relevant educational and assessment program that combines successful, standards-based instructional practices with ongoing benchmarking assessments.

Promotion Requirements:

Student progression requirements will be available in the parent and student handbook distributed during the first week of school and available on the School website. The parent of any student not making adequate progress will be notified in writing via the progress report and/or report card. Report cards are available/distributed at the end of each quarter and progress reports at the midpoint of each quarter. Students must meet promotion standards in grades K-8 that include demonstrated grade-level proficiency on local assessments, standardized tests, report cards, and student work. In determining the best educational interests of a student, appropriate grade placement decisions shall be based upon the mastery of critical knowledge and skills, including reading and mathematics. The educational program shall provide for the continuous progress of students. To be promoted to the next grade levels, students in all grades should be at a minimum proficient in grade level expectations for reading and mathematics, which may be demonstrated through North Carolina End-of-Grade tests, school assessments, student portfolio of work, and report card grades. A promotion decision should not be made solely based on a single state assessment. Parents will receive quarterly report cards and progress reports and data reports from benchmark assessments. Parent conferences will provide face-to-face conversations related to student progress. Additional parent meetings will be held related to EC and EL student progress.

If a student appears likely to be retained, then the parent/guardian of the student shall receive at least two (2) notices. The first notice may be a conference; the second notice must be in writing and provided by the end of the third quarter. The Principal's office must provide in writing an official notice of retention to the parent/guardian by the last day of School. It is the Principal's responsibility, in accordance with G.S.115C-288(a), when evaluating a student for retention or promotion, to consider information, such as the student's classwork and grades, along with the student's scores on the K-2 Literacy and Math assessment. In grades 3-8, the state EOG assessment, observations, grades, other formal and informal assessments, and classwork will be used to consider promotion. Students in grades 6-8 may obtain high school credits by taking advanced level courses (i.e., Math 1) but are held to the high school standards for those courses. Students must meet local and state graduation requirements, which include passing scores on state-mandated exams of essential skills. In addition, students must meet a proficiency score of level 3 or above on



the NC EOC Exams. Students must achieve a letter grade of a D or higher in each semester in core subject areas to be promoted to the next grade level. A student who does not meet the minimum required grade may enroll in course recovery. Students earning a Level 1 or 2 on the EOG for ELA must receive remediation in the form of an intensive reading course to strengthen reading strategies. Students earning a Level 1 or 2 on the EOG for Mathematics must also receive remediation, which may be provided in the Summer.

Students with Disabilities and Limited English Proficiency Students:

Students with disabilities who cannot participate in the North Carolina Essential Standards Assessments may be exempt from certain promotion standards. However, exempt students must be enrolled in a functional curriculum and demonstrate evidence of progress on alternate assessments. All recommendations regarding special needs students will be made in conjunction with the IEP Committee or the Section 504 Committee.

Students of Limited English Proficiency (LEP), as identified by state and federal standards, shall meet the same standards as all students; however, per federal law, English language proficiency cannot be the factor that determines whether a student has not met performance standards. All retention recommendations regarding Limited English Proficient students will be made in consultation with the English Language Learner Coordinator.

Teachers will work together in vertical planning sessions to review student performance data and set expectations and improvement plans. In addition to using the standardized NC Accountability exams, the School will use additional benchmarking assessments such as MClass, and iReady assessments to measure student progress and mastery. The School's priority is to encourage and support student growth individually and collectively through focused, data-driven instruction, differentiation, and careful attention to individual student populations' needs.

GSCA will also administer classroom assessments that include: spelling inventories, running records, explicit rubrics, and assessments for electives, in addition to standardized unit assessments included in the core curriculum packages. The assessment tools are used to analyze student performance on grade-level standards that are aligned to benchmarks within the North Carolina Standard Course of Study. A balanced approach to assessment is a result that combines the benefits of state and school-wide assessments with the instructional value of day-to-day classroom assessments and assignments. By identifying the state-specific standards that students must master to move to the next grade level, teachers will determine what students should know and be able to do to demonstrate proficiency on high-stakes assessments and the foundational skills and



understanding necessary for success in future grade levels. GSCA will implement a data-driven model to measure academic progress, instructional effectiveness, and teacher capacity. The data-driven cycle of assessment, analysis, and action is part of the School's intentional culture.

Leadership and teachers will identify/implement additional strategies during the year to use for closing the gaps and promoting growth by utilizing other formal assessments to identify the answers to the following questions and criteria with the goal of promoting students:

- What is the present level of proficiency of each student?
- What should the present level of proficiency be?
- What can teachers do to close the gap?
- Implementation of the NC model of MTSS?
- Identify students who need additional instructional support and increase the 1:1 and small group instructional time.
- Use varied, effective strategies to instruct diverse learners and to assess content understanding and mastery levels
- Use tests and other information on students' performance in instructional planning

**Q149. Provide the public charter school's exit standards for graduating ALL students. These standards should set forth what students in the last grade served will know and be able to do. Be sure to include plans for students at risk of dropping out.**



Question 148 describes in detail the promotion standards and expectations for all students and the various data points that will be used for promotion and retention decisions. In summary, students will be required to meet grade-level expectations in each core subject area before being promoted to the next grade. Ongoing monitoring, formal and informal assessments, portfolios, and graded work will determine student success. Upon promotion from GSCA in the 8th grade, students will have completed all of the NC grade level requirements required for registration to any typical NC public high school. Students at risk for failure will have participated in the MTSS program and will have had opportunities for credit or course recovery each summer and during the subsequent school year. Parents will be notified of their student's progress through progress reports, quarterly report cards, PowerSchool access, and parent/teacher conferences. Parents will also receive an Individual Student Report after each state assessment. Promotion criteria will be communicated to parents and students in GSCA's Student and Family Handbook and during Parent-Teacher conferences.

Students with Disabilities and Limited English Proficiency Students:

Students with disabilities who cannot participate in the North Carolina Essential Standards Assessments may be exempt from certain promotion standards. However, exempt students must be enrolled in a functional curriculum and demonstrate evidence of progress on alternate assessments. All recommendations regarding special needs students will be made in conjunction with the IEP Committee or the Section 504 Committee.

Students of Limited English Proficiency (LEP), as identified by state and federal standards, shall meet the same standards as all students; however, per federal law, English language proficiency cannot be the factor that determines whether a student has not met performance standards. Therefore, all retention recommendations regarding Limited English Proficient students will be made in consultation with the English Language Learner Coordinator.

## 9.5. School Culture and Discipline

**Q150. Describe the culture or ethos of the proposed school. Explain how it will promote a positive academic environment and reinforce student intellectual and social development.**



Culture is all about connections. When staff, students, and families walk into GSCA, they feel a sense of belonging. As a School that seeks to increase diversity and include all families in this School, GSCA understands that teaching inclusion and appreciation for other cultures or backgrounds will be essential. GSCA embraces diversity and understands that diversity must be joined with equity and inclusion. Students are encouraged to be their authentic selves, develop their natural talents, and be excited about school programming and instruction. Teachers will develop strong relationships with students and encourage them to build strong, positive relations with their peers. GSCA acknowledges and celebrates different learning styles and strives to create an inclusive learning environment. Our mission is to expose all students to activities and projects that engage and excite them about learning. If we develop students' talents at a young age, we can help them build on those talents and help carve a pathway to success as they matriculate through high school and choose college or a career. We encourage parent involvement and welcome feedback from our community. Parents will be invited to participate in workshops that build our culture of educating the whole community. Partnering with parents and our business partners will help develop a positive community and help define how we treat each other. GSCA has clear values that ensure staff and students understand behavioral expectations and define the look and feel of the school. These core values will create a school culture that promotes solid academics and language acquisition and fosters an environment of understanding aspects of global differences.

**Curiosity:** I strive to understand and learn more about my world. I will push myself forward academically and emotionally. I will look forward to differences and difficulties as learning opportunities instead of fearing them.

**Persistence:** I will persist through challenges. I will persist in listening to, speaking, reading, and writing Mandarin or Spanish even when I am unsure and even when it's difficult. I will ask for help when needed and recognize asking for help isn't a weakness; instead, it is an important life skill.

**Service:** I will contribute to my class, School, and community by doing my part, trying my best, and volunteering my talents and time. I recognize that I am responsible for myself and my community because we are all connected. I recognize that we are a community and that we are stronger together.

**Respect:** I will respect others and myself and demonstrate this by listening and learning to understand despite and because of our differences. I will respect myself by recognizing my strengths and weaknesses. I recognize that what I do and say affects others (including myself), and I will take responsibility for my actions and words.



Excellence: I will strive for excellence in academics and my actions. I will work for excellence by being willing to learn from my mistakes instead of expecting perfection. I will work to the best of my abilities and recognize that excellence takes practice and patience.

Additionally, social-emotional learning is a part of our daily experience, thereby teaching children skills to thrive in the classroom and life. The School will include SEL lessons and activities through the Readers workshop using the SEL curriculum provided by Fountas and Pinnell and included in the Units of Study. Students are regularly and publicly recognized for achievements and positive behavior, and staff members are encouraged and recognized for their hard work. Leaders communicate directly with teachers, counselors, and families, who also communicate directly with each other. Awards assemblies and project celebrations will highlight quality work and effort. Administrators are consistent and follow through with discipline to ensure students feel secure and safe and are mindful of the cultural differences in students' behavior. Recognizing and distinguishing these cultural differences allow for a culturally responsive approach to discipline and creates an inclusive environment for all students. Although consequences for infractions are needed, administrators take a restorative approach that cooperatively resolves disciplinary problems, thereby dramatically strengthening children's social-emotional skills. These practices have also been shown to reduce suspensions and narrow the racial discipline gap effectively. Repetitive negative behaviors will be consequences according to the discipline matrix adopted by the Board.

**Q151. Explain how you will create and implement this culture for students, teachers, administrators, and parents starting from the first day of school. Describe the plan for acculturating students who enter the school mid-year.**



All formal communication leaders have with the GSCA community will reflect and reinforce the culture and reflect the school's mission and vision. Key stakeholders will meet regularly to ensure that we hold to our mission and vision. Additionally, an Ambassador leadership program will be developed to build an inclusive school community to increase the number of students who have leadership opportunities. The Ambassador program will be designed to provide a significant number of students with the ability to serve in various leadership capacities. The program aspects will support the School's mission, classroom environment, and school-wide activities and events. The program will have core components such as welcoming/embracing new students, community service, student advocacy, reinforcing school-wide rules and expectations, and planning activities/events that meet the needs of the school culture and community. Students will welcome new families with tours, and a buddy program will be useful to acclimate new students who join after the first day of school so they feel welcomed and comfortable. GSCA will nurture a school culture that acknowledges and honors differences and empowers students, staff, and families to bring their whole selves by hosting school events and establishing traditions that celebrate and honor our multicultural community. Parents will be welcomed into our building as volunteers, field trip chaperones, lunch buddies, etc. Parents will also be invited to evening workshops designed to educate and empower parents in supporting their children. Annual parent, student, and staff climate surveys will provide insight into student relationships, learning conditions, and overall environment. GSCA's values will be incorporated through common language used throughout the School, to remind the entire community about our common goals. School-wide rules and expectations will be taught to all students, posted throughout the building, and reinforced daily. School staff will model GSCA's values, and teachers will utilize a social-emotional learning curriculum to help students develop self-awareness, self-control, and interpersonal skills that are vital for school, work, and life success. Student recognition for their achievements and positive behavior will come in many forms, including all-school announcements, certificates of achievement, and other rewards (i.e, special privileges, phone calls, or letters of praise to parents). Leaders will actively listen to school staff, seek their feedback, and ensure that they too are recognized and supported. School administrators will create a plan for teachers to follow regarding classroom management and student discipline. If an office referral is necessary, the school administrator will be consistent and fair, following the discipline matrix to ensure equitable and measured responses are implemented. Restorative practices will foster an equitable and positive school culture and support students who have discipline issues but are actively trying to improve their behavior.

**Q152. Provide a brief narrative that delineates how student conduct will be governed at**



the proposed charter school and how this plan aligns with the overall mission and proposed Education Plan of the charter school. Be sure to include:

1. Practices the school will use to promote effective discipline.
2. A preliminary list and definitions of the offenses which may result in suspension or expulsion of students.
3. An explanation of how the school will take into account the rights of students with disabilities in regard to these actions that may or must lead to suspension and expulsion.
4. Policies and procedures disseminating due process rights, including grievance procedures, for when a student is suspended or expelled.



Students' academic and personal success is at the forefront of all processes and procedures. The School recognizes that the proposed extraordinary curricular achievements can only happen within a safe and orderly environment. Therefore, GSCA has developed draft policies, including discipline policies related to the students' code of conduct, academic expectations, teacher communication, school level expectations, citizenship, and general school procedures. Before the start of the school year, each staff member, student and parent will receive a copy of the Staff or Family Handbook. All teachers, parents (and students in grades 4-8) will be required to sign an acknowledgment form indicating they have read and understood the School's expectations as outlined in the handbooks. The School will communicate any infraction of the rules and expectations by students to their parents in a timely manner to maintain a cooperative effort to encourage children to become aware of the natural consequences of their actions.

#### FERPA Adherence:

GSCA will adhere to all federal laws relating to maintaining student files, including those outlined in The Family Educational Rights and Privacy Act (FERPA) (20 USC § 1232g; 34 CFR Part 99), a federal law that protects the privacy of student education records. FERPA applies to all schools that receive funds under an applicable program of the US Department of Education and gives parents certain rights concerning their children's education records. These rights transfer to the student when he or she reaches the age of 18 or attends a school beyond the high school level. Students to whom the rights have transferred are "eligible students."

Reference: <http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html> (<http://www2.ed.gov/policy/gen/guid/fpco/ferpa/index.html>)

#### Discipline at GSCA:

GSCA views discipline as promoting positive character by establishing trust, respect, and productive relationships that help maintain a community of effective communicators, courageous problem solvers, and responsible citizens. In our discipline program, we strive for the full cooperation of all students, parents, teachers, and school leadership. Everyone involved will support and embrace the actions necessary to maintain a culture that embodies the Mission Statement & Core Values.

#### Commitments:

- School Leadership: Will model, promote, and inspire others to support and embrace this philosophy by demonstrating respect for students, parents, teachers, and community members through the way they lead, relate, and communicate while supporting teachers as they work to fulfill



their commitment of establishing a culture of respect.

- Teachers: Will model, promote, and inspire others to support and embrace this philosophy by establishing a respectful environment where each child has a positive relationship with a caring adult, where teachers treat students as individuals, and where teachers work collaboratively with all parties involved, highlighting the positive in each student and holding them accountable in a fair, productive manner.
- Students: Will model, promote, and inspire others to support and embrace this philosophy by following school-wide and classroom expectations at all times in action and in attitude, addressing and/or reporting behaviors that are unsafe or disrespectful to themselves or others, accepting responsibility for their actions, taking steps to resolve the issue, and when necessary, accepting the consequences for failing to meet expectations.
- Parents: Will model, promote, and inspire others to support and embrace this philosophy by reinforcing school-wide and classroom expectations at home and supporting staff members through communication and collaboration, helping identify, address and overcome any obstacles in the process.

Options for Addressing Positive Behaviors:

- Praise, including classroom and school-wide
- Visual acknowledgments, including standing ovations and bulletin board
- Leadership celebration
- Note, phone call, email, or postcard home
- Privileges, including lunch buddies with students or other adults, extra computer time, eating outside, outside activity, a special job, choosing a class book or activity, sitting in the teacher chair or teacher desk, free choice day, and student suggested privileges.

Steps for Addressing Negative Behaviors:

The attached discipline matrix provides a full range of potential student infractions organized by increasing the level of infraction and accompanying range of possible responses/consequences. As a function of the investigation, the conclusion of the investigation, and the potential response of the School, a child's circumstances will be decided by a variety of factors, including:

- academic history,
- behavioral history,
- social/emotional history,
- any other mitigating factor.

The goal is to determine a response that will improve all students' academic and behavioral



outcomes. Restorative practices will be utilized to foster an equitable and positive school culture. Restorative practices involve an alternative to using punishment-based approaches to school discipline and behavior management in K-8 classrooms. These practices focus on strengthening relationships and connections between individuals, both youth and adults, in a school community.

Suspension or possible additional disciplinary action may occur for repeated and/or severe behavior, which could include but would not be limited to the following:

- Long-Term Suspension,
- Disciplinary Reassignment, or
- Other measures/responses as allowed by law.

These disciplinary actions would be in response to any of the following:

- for the commission of any crime,
- gross immorality,
- gross misbehavior,
- persistent disobedience,
- for violation of written rules and promulgated regulations established by the GSCA Board, local regulation, the State Board of Education, or
- when the presence of the pupil is detrimental to the best interest of the School.

The Principal shall have the authority to suspend a student for up to ten

(10) school days at a time (i.e., a Short-Term Suspension). There are no appeals for short-term suspensions of ten (10) days or fewer. For high level offenses, the Principal may recommend a Long-Term Suspension, Disciplinary Reassignment, and/or other measures as defined by law. The School may recommend additional action for any student who has been given out-of-school suspension three or more times in the same academic year for the same/similar offenses without improvement. The School shall follow applicable rules concerning the discipline of students who qualify under relevant special education laws and described in school policy.

Appeal Process:

The Principal shall make decisions after appropriate written notice to the parties involved, and a hearing will occur if one is requested and/or required by law or policy. The Board Chair shall appoint a hearing panel in those cases. A panel shall hear student appeals from the decision of the Principal or hearing panel of three Board members who the Board Chair shall appoint. Appeals must be made in writing to the Board Chair within ten (10) days of the decision of the Principal. The hearing



panel will occur at the next regularly scheduled Board meeting date unless the family is notified otherwise. Decisions of the Board panel shall be final, and there will be no further appeal to the full Board of Directors. Upon recommendation of the principal, the Board may permanently statutorily reassign a student whose behavior indicates that the student's continued presence in school constitutes a clear threat to the safety of other students or employees.

#### IDEA Compliance:

All disciplinary procedures will be exercised in a manner consistent with state and federal law, including the Gun-Free Schools Act, the Individuals with Disabilities Education Act, and the Rehabilitation Act of 1973. The disciplinary procedures apply to students with disabilities and those who have Section 504 Plans. The process for adjudicating disciplinary consequences for all students is as follows:

- In determining the appropriate consequence for a violation of this Code, principals shall consider all aggravating or mitigating circumstances they deem relevant. Examples of aggravating or mitigating circumstances that may be considered include but are not limited to:
  - The student's age.
  - The student's intent.
  - The student's disciplinary history, including the number of infractions and prior discipline for the same violation.
  - The student's academic history.
  - Whether the conduct caused a threat to safety.
  - Whether school property or personal property was damaged.
  - Whether the conduct caused a substantial disruption of the educational environment.
  - Whether a weapon was involved and whether an injury resulted.

The discipline matrix presents leveled consequences that depend upon the severity of the violation. The principal shall inform students of local school rules that, if broken, may result in suspension from school. This judicial process will be followed for all students, including those on an Individual Education Plan (IEP) or a 504 Plan. A manifestation determination meeting will be held if a child with an IEP or a 504 Plan is referred for suspension for greater than an accumulation of ten (10) days. This meeting intends to determine whether the child's behavior is a direct manifestation of their unique disability. Should this be the case, the School may recommend a functional behavior assessment and implement a behavioral plan. Alternatively, if deemed necessary and appropriate, the School may recommend an alternative educational environment that ensures the student's educational plan is accommodated according to the goals, objectives, and resources provided for in



the IEP or the 504.

#### Due Process:

If the principal recommends a student for a suspension of more than ten (10) school days, he/she shall provide written notice of the suspension to the student's parent, guardian, caregiver, or another person legally responsible for the student. The notice must include:

1. A description of the incident and the student's conduct that led to the long-term suspension recommendation, including any aggravating or mitigating factors that were considered in determining the consequence.
2. A reference to the Discipline Matrix provisions that the student is alleged to have violated.
3. The specific process by which the parent may request a hearing to contest the decision is described in this policy.
4. The process by which a hearing will be held, as described in this policy.
5. Notice that the parent is permitted to retain an attorney to represent the student in the hearing process or have a non-attorney advocate represent the student.
6. Notice that the parent has the right to review and obtain copies of the student's educational records before the hearing.
7. If school personnel are aware that the parent's first language is not English and foreign language resources are readily available, this notice shall be provided in both English and the parent's primary language. The written notice should be provided to the parent/guardian by the end of the workday during which the suspension is recommended but in no event later than the end of the following workday. A responsible adult shall deliver the written notice by hand by certified mail, telefax, email, or any other written method reasonably designed to achieve actual notice of the recommendation.

#### Impact on Students With Disabilities:

Students with disabilities will be disciplined per their IEP or 504 Plan and the district's policies and procedures for students with disabilities. GSCA's policy on suspension and expulsion of students with disabilities will adhere to the specific procedures for disciplinary actions that involve students with disabilities as outlined in the IDEA 2004 Amendments or Section 504 of the Rehabilitation Act of 1973. Under IDEA, the continued provision of FAPE will remain with the LEA and, by extension, with the charter school. The following disciplinary process will be implemented to ensure compliance:

- School administration can remove a student with a disability for no more than ten (10) consecutive days for violation of the school code of conduct (to the same extent applied to children without disabilities). Students with disabilities are not exempt from the rules regarding misbehavior as outlined in the Student Code of Conduct. All disciplinary action involving students with disabilities



will be addressed following the policies and procedures set forth by the Board.

- School administration can also order a change of placement of a child with a disability to an appropriate interim alternative educational setting for up to forty-five (45) days for possession of weapons or drugs or the solicitation or sale of controlled substances while at school and/or school functions.
- If the administration believes that a child is a danger to him/herself or others, an expedited due process hearing can be requested to remove a student to an interim alternative educational setting for up to forty-five (45) days. Forty-five (45)-day interim alternative educational placements can be extended in additional forty-five (45)-day increments if the hearing officer agrees that the child continues to be substantially likely to injure him/herself or others if returned to the prior placement.

A student with a disability can be removed from the school by certain means, including long term suspension for behavior that is not a manifestation of the child's disability, to the same extent as children without disabilities for the same behavior. In addition, the administration can report crimes to law enforcement if deemed necessary. If a situation is severe enough, the administration may request a temporary restraining order to protect a child or adult from harmful behaviors. (300.519-529 and 521 d.)

#### Discipline Hearings:

Before a removal for cause of any student, the school shall conduct a hearing to determine whether the student's continued presence in school constitutes a clear threat to the safety of other students or school staff. The student shall be given reasonable notice of the recommendation and reasonable notice of the time and place of the scheduled hearing. The BoardSchool's decision to take such action shall be based on clear and convincing evidence. TheSchool Board may also consider the State Board of Education guidelines defining acts and conduct that are considered a clear threat to the safety of students or employees. Before ordering the expulsion of such a student, the Board shall consider whether there is an appropriate alternative program offered hat may provide education services to the student. The decision of the school under this provision is final, subject only to judicial review per Article 4 of Chapter 150B of the General Statutes.

As a companion upload to this section, please see the school's discipline matrix and aforementioned proposed disciplinary procedures.



Applicant Evidence :



Granite Discipline Pl...

Uploaded on **4/26/2022**

by **Laura Howell**

## 9.6. Certify

Q153. This subsection is entirely original and has not been copied, pasted, or otherwise reproduced from any other application.

Yes

No

Q154. Explanation (optional):

## Section



Lisa Weaves

### Ratings

**Meets the  
Standard**

The response meets the criteria in some aspects, but lacks sufficient detail and/or requires additional information in one or more areas.

### Comments :

Applicant has given considerable thought to the educational plan and culture of the school. Applicant understands education of special populations and all federal and state requirements. Applicant has a clear mission and vision and has consciously scaffolded a plan to bring that to fruition and has not, like many applicants, felt the need to embellish the plan with every bell and whistle in existence.



## 10. Governance and Capacity

### 10.1. School Governing Body

#### Q155. Organization Street Address (if you have one)

- On the Organization Information page, you already provided the mailing address.

We do not yet have a permanent location established, so we will use the mailing address until further notice.

### 10.2. Governance

The private nonprofit corporation or municipality is the legal entity that has responsibility for all aspects of the proposed charter school. Its members should reflect the ability to operate a charter school from both business and education perspectives.



Q156. Using the attached resource as a template, please complete the table depicting the initial members of the nonprofit organization.

Upload Required File Type: excel Max File Size: 30 Total Files Count: 3

Resources


Initial Members of t...

Applicant Evidence :


Granite Initial Memb...

Uploaded on **4/26/2022**  
by **Laura Howell**

Q157. Describe the governance structure of the proposed charter school, including the governing board's functions, primary duties, roles, and responsibilities as it relates to overseeing the charter school. Include how the board will recruit, hire, and supervise the lead administrator.



A North Carolina Not for Profit Corporation has been established to establish and operate a Charter School under the North Carolina Charter Schools Act. All business and affairs shall be managed by a volunteer Board of Directors or by such committees as the Board of Directors may establish to accomplish the School's goals and programs. Directors will be required to demonstrate commitment to the mission and purpose of the School and will be required to attend regular meetings and accept committee memberships. Such committees shall have such responsibilities as the Board of Directors shall specify. Committees may include but are not limited to the following: Finance, Personnel, Development, Facility, Curriculum, Exclusion, and others as needed. The Board has established and adopted a strict code of ethics and conflict of interest policy for its members and school site personnel. The members of the Board and the School's staff will abide by the Board's code of ethics. Board members shall be responsible for avoiding any behavior or action that will result in a conflict of interest between their responsibility as a Board member and their personal/professional interests and will complete all forms and disclosures as required by the state, and financial auditor. If a conflict of interest exists, board members may not participate in selecting or awarding bids or administrative processes. A conflict of interest exists when an employee, officer, any member of his or her immediate family, his or her partner, or an organization that employs the parties indicated herein, has a financial or other interest in the firm selected for the award. The Board will bear final responsibility for the School's academic success, organizational viability, and faithfulness to the terms of the charter by developing and approving the annual budget in addition to school policies. Furthermore, it will set goals and review strategies to guide the School toward the fulfillment of its mission continually.

Guided by the School's mission, the Board will develop policies and other acts that will provide the operational foundation of the School.

The board policies will have two purposes:

1. To give direction to the school staff in implementing the School's goals and ensure the School meets the legal requirements and obligations of the charter contract.
2. The Board may also adopt policies throughout the year to address situations and crises.

The board may research policies established at other charter schools in the county and state to adopt proven practices and avoid adopting unsound or illegal policies. Guided by existing research and established best practices, the Board may also seek legal consultation when developing policy. The Board of the School serves as the ultimate decision-maker on all school policies and specifically those that dictate action related to management, financial solvency, and general oversight of the School.



The Governing Board will recruit and hire a Principal who will then identify and employ the remainder of the instructional staff. The Board will develop a Human Resources (HR) Subcommittee to recruit and select the Principal. Then, the HR Subcommittee will make a final recommendation for the entire Board to make a formal decision. The steps in the recruitment and hiring process of the Principal will generally follow the steps below but may be modified as needed: After approval, a more focused, nationwide search for the Principal will commence. The position will be advertised on the School's website and social media platforms, which already exist. This search will include referrals from Committee members, online job sites, and other pertinent resources (such as professional organizations and job fairs). The Principal position will also be advertised through the new North Carolina jobs board platform, the North Carolina Association for Public Charter Schools. The Board will seek a Principal with measurable success in leading a K-8 charter school, preferably one with experience in hands-on experiential learning, an educational philosophy aligned with the mission of this program, and North Carolina licensure. The Board will also conduct criminal history, background checks, and reference checks before providing a job offer. The Principal shall be responsible for the day-to-day operation of the School, which includes the following:

- providing a safe and secure environment for students to learn;
- working with and developing the teaching staff;
- addressing student-related issues;
- connecting with the parents and community members;
- overseeing the volunteering component of the School; and
- providing input and support for curriculum development.

The Principal, along with the leadership team, will be responsible for ensuring the School is operating in accordance with the mission and vision outlined in the charter application and the Board. The Board President will review the School's progress and needs with the School principal monthly or as needed. The Principal will present a board report and be available at all Board meetings to provide information related to enrollment, academic achievement, budget variances, parent and community engagement, and other items placed on the agenda by the Board. The GSCA board may support the ongoing recruitment and vetting of additional candidates who may become the leadership team with the new Principal as needed during the pre-opening phase. Once this team is in place, the Principal will continue recruiting and hiring additional instructional staff and support. Depending upon enrollment, the School will have additional administrative support for the School Principal and administrative office staff.

#### Q158. Describe the size, current and desired composition, powers, and duties of the



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governing board.



The desired membership size of the Board is between 5 and 9 members. Members of a board of directors may serve three years and may serve additional terms. A choice of membership of the Board must take place every three years. All members must be residents of the State of North Carolina and preferably reside in the Counties served by our School. It is desired that the Board represent the diversity of the community and school population and have expertise in a related field to support the charter school. This may include Education, Finance, Legal, Nonprofit, fundraising, and facilities. The Board will provide clear policies and actionable items from democratic votes taken at advertised meetings and informal advice and direction to the School's Principal and administrative staff on an ongoing, continuous basis and when requested by school leadership. This strong level of involvement will continually revolve around oversight of school operations to ensure the execution of the School's mission and goals with complete fidelity. The Board will follow all applicable laws and policies related to charter schools established by the state and established rules and procedures customary to charter school governing boards in North Carolina. The Board will contract with experienced professionals who can demonstrate success within the charter school industry to provide services to complete a successful opening and continuing operation of the School. The Board is fully aware of its responsibility to provide effective and proper management of the School and be good stewards of the public funds allocated to the School. Some of the critical functions of the Board are as follows:

- The Board meets regularly to address policy, strategic direction, organizational performance, and community impact matters.
- The Board receives financial and other essential information sufficiently before the board meeting.
- The Board meets regularly throughout the year, with a majority of directors in attendance.
- Board candidates are formally selected with an emphasis on the skills needed to advance the organization's collective work
- New directors receive comprehensive orientation and training after the election to the Board.
- Ongoing training is provided regularly to the Board to ensure effective service by its directors.
- The Board maintains active involvement by rotating duties and/or term limits.
- The committee structure reflects the organization's strategic priorities and changes, when necessary, to advance the mission. Committees are used effectively so that board members with relevant skills can focus on critical issues.

No less than 10 regularly scheduled meetings for the year will be posted on the School's website, Facebook page, newsletter, and bulletin board. Both regular and special meetings of the Board of Directors will be publicly noticed, per established open meetings and records law. Minutes of the meetings of the Board of directors, annual budget, and monthly financials will be published on the



School's website under the records law. All stakeholders will have access to the public minutes as desired if unable to attend the live, open board meetings. The participation of parents, staff, and the general public will be encouraged. Members of the public may sign up to speak on agenda items before the meeting begins. Their name will be called during the public comment portion of the board meeting. If they wish to speak to an agenda item but did not sign up for it, they may request to do so. Related to the long-term educational success of the School, both the board and school leadership will adopt the "School Improvement Life Cycle" as published by Cognia to guide all decision-making processes, particularly those involving school policy. The cycle begins and ends with the gathering and thoughtful analysis of relevant school data. Goals will be established for school policies that match a SMART format (Specific, Measurable, Achievable, Relevant, and Time-Bound). The Board will implement the policies in furtherance of the School's mission and evaluate the impact and relative effectiveness of the policies, thus renewing the cycle of continuous improvement.

**Q159. Describe the founding board's individual and collective qualifications for implementing the school design successfully, including capacity in such areas as school leadership, administration, and governance; curriculum, instruction, and assessment; performance management; and parent/community engagement.**



Consistent with its mission to develop leaders within their communities, the GSCA Board has worked to ensure that they have broad community support and a governance team with varied skills to ensure that their organizational, financial, and operational plans provide a solid foundation on which the School can grow for many years. When GSCA opens its doors and welcomes its first cohort of students in the Fall of 2024, it will be the product of the hard work of a dedicated group of founders, the support of Chatham County, and the surrounding business and residential communities. This is represented in the hard work and commitment of the members of the initial Founding Committee. They have already donated considerable time and energy during the planning and application process. The membership of the Founding Committee has been developed to ensure a broad range of skills and expertise suitable for a Founding Board, with members demonstrating a deep commitment to the GSCA mission and vision. Each board member brings experience and expertise in a field critical to the development and operations of a successful charter school with a unique and innovative model that incorporates skilled trades, financial literacy, and STEM fields as its mission to help students find their passions and talents and follow a path that will lead to their academic and future success. Members include the following:

- Steven Griffin: Steve has been an active charter school advocate since the movement began in the 1990s. He has over thirty-six years of property, casualty, life, accident, and health insurance experience with responsibilities including marketing, procurement, and placement of all types of insurance. He evaluates risks and exposures and recommends appropriate coverages. Steve has served on numerous committees and boards to support education, and specifically, to ensure equity in access for all students. He is a member of the Independent Insurance Agents of North Carolina and is currently serving on the IIANC Governmental Affairs Committee. Steve also serves on the HBA - DOC Board of Directors and Executive Board of Directors and is a member of the State of North Carolina Insurance Committee. He is a founding board member for the Lincoln Community Health Center Foundation to raise funds and awareness to support the medical cost and expenses of the patients visiting our health clinic. He is the Chairman of the Governmental Affairs Committee for the NC Association of Public Charter Schools and is a former member Board of Trustees of the North Carolina School of Math and Science, 2014 - 2021. Finally, he is the Chairman of the North Carolina Educational Workforce Innovation Commission and the past Vice-President of Durham Interfaith Hospitality Network.
- Holly Fraccaro: Holly holds a Master's degree in Counseling and Psychology and brings over twenty years of leadership experience in charitable nonprofit organizations. Holly has served seven years as CEO of the Home Builders Association of Durham, Orange, and Chatham Counties. CEO for one of the largest Home Builders Associations (HBA) in North Carolina and the Executive Director of the HBA DOC Foundation, a not-for-profit charitable organization. Holly is responsible for an annual combined (Association + Foundation) budget of ~\$1M and has *successfully Developed a 5-trade*



*summer pre-apprenticeship career academy (Carpentry, HVAC, Electrical, Plumbing, Masonry). Holly has also Created the Future of Builders of the Triangle Club, a venue for high school students seeking trade-related training and mentorship. She is passionate about skilled trades training, pitbull rescuing, and nature.*

- **Laura Howell:** Laura brings over twenty-eight years of public school education experience to this Board. After graduating from East Carolina University with a Bachelor's degree in Home Economics in Business and Education, she began a career as a Science Teacher at Northern High School in Durham, NC. She served as the CTE Department Chair and on a variety of school committees, including the Improvement Team, and the Accreditation team, and she served as the VOCATS testing coordinator and career planning. Laura then became the Career Development Coordinator for Northern High School. In 2011 Laura became the CTE Department Facilitator for South Central High School in Greenville, NC. Ultimately, Laura served on the Founding Board for Voyager Academy in 2011 and after her terms expired, became the Testing and Accountability Coordinator and has served in that position supporting the High School since 2013.
- **Randy Voller:** Randolph "Randy" Voller is the former Chairman of the North Carolina Democratic Party ("NCDP"), the Sixth Congressional District Committee, and the Chatham County Democratic Party, as well as a four-term mayor of Pittsboro, NC. Randy founded a firm that focuses on business consulting, real estate brokerage, and development. Randy led work on Chatham County developments such as Chatham Forest, Daniel Ridge, and Wilkinson Creek. Randy strengthens this board with extensive leadership experience on several local, regional, and state boards, including as chairman of the Triangle Area Rural Planning Organization, and membership on the boards of the NC Housing Finance Agency, Advanced Energy Corporation, the North Carolina Juvenile Justice Grants Committee, the Chatham County Economic Development Corporation, the Chatham County Affordable Housing Task Force, and the Solid Waste Advisory Board among others. Randy is still a member of the NCDP Executive Council, NCDP Executive Committee, and the Platform and RELutions Committee. He founded the NCDP Labor Caucus and still serves on its executive committee. Randy is a Leadership Triangle Goodmon Fellow and in 2017 was awarded the Goodmon Award for Community Service. He is a 2010 Marshall Memorial Fellow (GMF). He also participated in the Latino Initiative with the UNC Center for International Understanding in 2010 and was twice named a "HomeTown Hero" by WCHL. Randy is a board member for Main Street Pittsboro as well as Sustainable Prosperity where he also serves as its President.
- **Cindy Gittens:** Cindy earned her Master's degree in Social Work and has served as a Social Worker and Counselor in public schools since 2007. She is a Licensed Clinical Social Worker through the North Carolina Social Work Licensure Board, May 2018-Current. She is also a Licensed Clinical Social Worker through the Virginia Board of Social Work, March 2017. She is also a current, Licensed School Social Worker through the North Carolina State Board of Education. She has multiple additional certifications, including Columbia Suicide Severity Rating Scale (C-SSRS), The Virginia



Model for Threat Assessment PREPaRE, and Restorative Circles & Restorative Conferences. Cindy's vast experience includes being a member of the Child Study Team and Eligibility Committee and conducting Socio Cultural assessments for the special education eligibility process, Special education assessments driven by Individualized Education Plans, and Individual and group counseling for grades K-8 with individualized goals. She has Chaired multidisciplinary clinical support teams for students receiving special education services, delivered mental health and substance abuse presentations across grade levels, and responded to crises involving staff, students, and the community using the PREPaRE model of crisis preparedness and intervention. Cindy is also a coach for the Positive Behavioral Interventions & Supports (PBIS) program.

- Sam Edson: Sam is a skilled electrical contractor, problem-solver, and aspiring business owner. He is experienced in residential and commercial wiring with excellent customer satisfaction. Sam graduated high school from Durham School of the Arts and attended a year of college at Western North Carolina State. He began his first apprenticeship in 2013 and is now a foreman/Supervisor for Granite State Electric. He serves on this Board to help schools bring innovative and hands-on learning options for students to provide greater opportunities than he had. He hopes to help young children find their talent and their passion and follow that dream wherever it may lead: college, career, and beyond.
- Carlo Garay: Carlo is a bilingual engineer who has owned and operated his company, C and J Heating and Air, since 1996. After receiving his Bachelor's degree in Accounting from the Institution of Central Honduras with a Minor in Business Math, he earned his certifications in Industrial Electricity and Motor Controls from Durham Technical Institute. In addition to helping local communities by volunteering on boards and committees at Cedar Ridge High School, Police Departments, Occonechee Orange SpeedWay, Friends of Central Orange Senior Center, and WPY Cedar Ridge High School, he also serves as a Baseball coach and helps kids learn skills, strategy, and leadership.

**Q160. Explain how this governance structure and composition will help ensure that**

- 1. The school will be an educational and operational success;**
- 2. The board will evaluate the success of the school and school leader; and**
- 3. There will be active and effective representation of key stakeholders, including parents.**



The Board has a good range of members with a cross-section of experience that will ensure the school's success in achieving its mission. Our board membership is composed of professionals with expertise and experience in education, construction trades, associations, and various business backgrounds. This diversity of expertise offers a wide variety of thought and insight into the daily challenges of operating a high-performing school. In addition, the board will engage high-level and experienced consultants to guide the board to successfully achieve its mission in the greater Chatham community. The GSCA board will be held accountable by the authorizer, the state, the federal government, and the public to ensure that our school operates with purpose and responsibility. Parental engagement is vital to the development of our current and future school leaders. We endeavor to establish an Advisory Board of parents, business owners, and community leaders who will advocate and support our school's mission. GSCA endeavors to offer a dynamic academic and innovative educational curriculum for our students and families living in the Chatham County community that is currently not being served, particularly in the STEM, construction trades, and other Career Technical Education fields. Student achievement will also be a critical component of success. GSCA will expose students to multiple pathways for their future. Our students will be exposed to STEM education, as well as skilled trades that are critical to our workforce. The real-world, hands-on experience that our students will receive through electives and courses sets us apart from other local school districts. This educational experience will engage our students and result in higher academic achievement that will be demonstrated in the State assessments and our students' growth scores. One way that school success can be measured is through obtaining our targeted enrollment in Year One and maintaining full enrollment in the ensuing years. To achieve this, the GSCA Board of Directors will work to ensure that our school community will be engaged and all GSCA students and families feel welcome and included. Additionally, positive feedback will be received from staff climate surveys and the school will subsequently have low staff turnover. There will be financial stability and no compliance issues with OCS or the state authorizer. The School leader will be responsible for implementing the educational program as described in this application. This includes a successful workshop delivery model and a comprehensive electives component in the elementary school that exposes students to various STEM activities and other career-based electives such as construction, engineering, electrical and plumbing, and financial literacy. The school leader will be evaluated against these specific, measurable outcomes:

- Enrollment,
- Academic Achievement (state assessments, growth monitoring tools),
- Operating within the Annually Approved Budget,
- Compliance in All Areas (Federal programs, required reports, etc.),
- Low Student and Staff Attrition, and



- Positive Family and Staff Climate Survey responses.

Stakeholder inclusion is critical for this type of charter school. Our stakeholder groups include Staff, Parents of students, the Students, and the community and businesses in the geographic region we serve. Our School has established initial support and partnerships with several local businesses that are deeply invested in this innovative program. The Board will include those stakeholders in meetings, workshops, roundtables, and Board meetings to ensure that they too have a voice in programming. Parents will have a voice in School operations by participating in the School Advisory Council that will be responsible to work with School leadership and staff to develop a yearly School Improvement Plan. Parents may also join the PTO and participate in fundraising events, volunteering opportunities, and developing parent partnership committees. Parent workshops, conferences, and informal meetings are part of the School's expectations so the Board expects parent input and feedback to be a key component in shaping the future of the School. Parents and community members alike may also provide feedback to the Board of Directors during a Board meeting during the Public Comment section, a dedicated time provided during each Board meeting.

**Q161. Explain the procedure by which the founding board members have been recruited and selected. If a position is vacant, how and on what timeline will new members be recruited and added to the board?**



In 2019, the initial Founding Board member who has been actively involved in charter school advocacy and support for decades realized that Chatham County needs a unique charter school designed to meet working-class families' needs. It would also help children whose ultimate path may not include attending college yet still have access to high-quality education and a curriculum that provides them the most options for a successful future. This Board member began to reach out to other folks employed in or supportive of skilled trades and other Associations to develop a founding Board for a new School. Board members were recruited based on their experience, wisdom, and knowledge as well as their willingness to work as a team to ensure that the vision and mission of Granite State Charter Academy are achieved. The board will seek guidance from its attorney and follow the bylaws and appropriate rules when replacing a board vacancy. The founding board members also come from diverse backgrounds. They were recruited because of their community knowledge and expertise in the areas of education, mental health, finance, business management, and real estate. There was a lot of interest in this geographical area to educate students in nontraditional ways and help parents find quality schools that will enrich the educational experience. Each new member then reached out to another colleague to develop a founding committee that initially had twelve members. This grassroots effort created an active group of community members with the necessary balance of experience in education, parent support, business acumen, and local expertise required to open and operate a highly successful, heterogeneously populated charter school. This group of committed members continued to have discussions and meetings about writing a charter application and began in earnest during COVID. Unfortunately, virtual meetings and the inability to meet with the public face to face slowed down the efforts, so the Board regrouped and initiated the full development this year in 2021-2022. Ever since they have been on a mission to add additional student seats to assist with the number of new families flocking to the greater Chatham area by opening a public charter school. Over the past twenty-four months, the committee identified numerous supporters who could add experience and expertise to the program and ensure the long-term success of this School.

#### Board Development Committee:

The Board will engage in an ongoing, year-round function of prospecting, contacting, recruiting, orienting, supporting, providing ongoing training, and evaluating Board members. One (1) Board member will be asked to chair this committee. This committee will receive applications and interest letters from potential board members and develop an appropriate candidate pool by ensuring the candidates meet the above mentioned requirements.

#### Profile of the Current Board:



The board development committee will create a profile of the current Board using a matrix with crucial factors that define sought-after expertise, knowledge, skills, experience, relevant demographic characteristics, and the overarching laws related to board composition for charter schools. Then, the Committee will use the matrix to complete the profile of desired new board members to aid in the recruitment process. Board recruitment and development activities will be matched with the strategic plan's requirements and demands, which are aligned with the School's mission. The Board and the board development committee review the mission, vision, goals, and strategies. This will assist them in identifying any new skills, knowledge, personal contacts, and other attributes future board directors will need to possess for the Board to do its part in advancing the strategic plan. The board development committee also creates a profile of the current Board using a matrix with crucial factors that define sought-after expertise, knowledge, skills, experience, and relevant demographic characteristics. The committee will use the matrix to complete the profile of desired new board members. It will share with stakeholders the delineated areas of expertise wanted or needed to encourage them to recommend colleagues and associates who have the necessary skills and a passion for GSCA's mission and vision. Once these criteria are established, board vacancies will be advertised on the website, in open meetings, and on social media to ensure equal access to all constituents to fill vacancies. Filling vacancies will follow the statutory regulations, including:

- A choice of the membership of the Board must take place as veteran board members' terms expire
- New Board members must live in NC, and preferably in one of the three-five counties the School is anticipated to serve
- The bylaws outline the manner of selection of these members.
- In addition, board terms will be staggered, so an entire board does not rotate off simultaneously. When appropriate, vacancies will be filled through a digital platform of voting.
- Board members will be elected, and Board roles will be elected at the Annual meeting per the Bylaws unless a seat becomes vacant mid-year for any reason.

**Q162. Describe the group's ties to and/or knowledge of the target community.**



Each board member lives in one of the primary counties expected to serve GSCA students. In addition, every Board member is personally invested in the mission and vision of this program for one of the following reasons:

- They work in the industries that are desperate for future candidates in the workforce for North Carolina's growing need of employees, such as the Home Builders Association, Commercial Real Estate and Development, and Electrical Engineers.
- They are educators who have worked with high school students for over 20 years and helped develop successful CTE programs for high school students.
- They have helped counsel high school students through the process of college applications, admissions, and attendance or helped students find placement directly into the workforce post-graduation.

Every Board member believes wholeheartedly that this school is critical to teach students aged 5-13 that they can use their education and school to find their pathways in life. These pathways will ultimately lead to a successful and rewarding future, whether college or a career. This educational model will help them apply their educational content to real-life and authentic activities to develop a connection between school and the workforce. GSCA Board members are intricately tied to this community and deeply invested in its growth. They believe that a high-quality school drives residential growth and serves as an anchor for families to stay in a community, care about the community, and ultimately serve and give back to their community. Board members want to see this School grow and prosper and see its students go on to high school and then eventually have careers in this region of North Carolina so the region can continue to succeed in a cyclical process year after year.

**Q163. Outline the strategic board calendar detailing how often the board will meet according to the bylaws established.**



During the initial planning year (Ready to Open Status), the Board will meet at a minimum twice monthly to review, complete and report out on the RTO required activities, training, pre-development facility work and opening tasks. The Board will create a priority task list and assign work to the various subcommittees to ensure that progress is made, and there is a checks and balances system in place. The Board will hold regular monthly meetings as the primary "reporting" date for each subcommittee to share updates and progress on the RTO activities and all other items related to opening the School. Upon completion of the RTO process and when the School officially opens, the Board will meet each month on a set schedule and have a standard strategic calendar of items for discussion. These include, but are not limited to:

- Enrollment
- Budget
- Academics
- Staffing
- Compliance
- Grants (applications and audits)
- Epicenter submissions
- Employee/Student/Family concerns
- Other new business
- Public comments

**Q164. What kinds of orientation or training will new board members receive, and what kinds of ongoing professional development will existing board members receive? The plan for training and development should include a timetable, specific topics to be addressed, and requirements for participation.**



The North Carolina Office of Charter Schools requires all charter school governing board members to attend board orientation within a year of being elected and/or appointed. Therefore, GSCA Board members will attend all required Ready To Open training sessions during the pre-planning year. This provides board orientation that meets the state requirement to all public charter school board members as part of their mission. During the orientation, board members become familiar with charter law and legal expectations, board structure and responsibilities, funding resources, student achievement, and school success. All Board members will be required to complete this coursework. To build leadership capacity, board members will also attend professional development workshops at educational conferences, such as the North Carolina and National charter school conferences, State Association conferences, and other Legislative workshops offered throughout the year to build leadership capacity and ensure that each board member contributes to the School's success. The Board is committed to joining the North Carolina Association for Public Charter Schools (NCAPCS), which hosts numerous training and development courses, and 3rd-party vendors may be brought in for core competency areas of training if needed. The Board has committed to sending at least two board members to the NCAPCS's annual conference to attend governance sessions and will seek outside governance training or development as needed. In addition, the School intends to join one of the Office of Charter School's regional sessions scheduled throughout the year. As needed, the Board may bring in additional training or consultants to further strengthen the Board's governance as the School grows and the needs for specific areas of expertise or oversight develop. Initial topics to be addressed through training include:

- Primary roles and responsibilities of the Board
- What to include in Board packets
- Posting Board meetings
- Robert's Rules of Order
- Taking clear and effective minutes
- Creating subcommittees
- Conflict Resolution
- How to measure short- and long-term goals
- How to Evaluate School Leadership

As new Board members join the governing Board, they will first attend the required board training workshops and then participate in a future state conference to develop their governing acumen as they continue to serve on the Board.

#### Q165. Describe the board's ethical standards and procedures for identifying and



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addressing conflicts of interest. Identify any existing relationships that could pose actual or perceived conflicts if the application is approved; discuss specific steps that the board will take to avoid any actual conflicts and to mitigate perceived conflicts.



The Board of Directors will accept only the highest ethical and moral conduct standards from its members and the school staff. Due to the important role played by the Board, all Directors undergo the same background check procedures as employees of the School and will conduct themselves per the North Carolina School Boards Association (NCSBA) standards. A Director may be removed with or without cause only by a simple majority vote of the Board of Directors at any meeting. Directors will be considered for dismissal for any one of the following breaches of integrity, including:

- violation of confidentiality,
- undermining the directives of the Board,
- being indicted or convicted of a felony,
- failing to oversee and abide by terms and conditions stated in the bylaws, or
- by acts that would constitute a general breach of integrity in the views of the members of the Board of Directors.

When matters that come before the Board of Directors that places a Director in a perceived conflict of interest between the interests of the Corporation of the Board member, his/her family, and/or business, the Board will follow these procedures:

1. Any Board member having a possible conflict of interest on any matter will not vote or use his or her influence on the matter. He or she will be recused from final discussion and voting after answering all Board questions and fully informing the Board of all pertinent details.
2. The Board Chair will appoint a neutral person or committee to investigate alternatives to the proposed transaction.
3. After exercising due diligence, the Board will determine whether the school shall proceed with the desired action.
4. The Board meeting minutes will reflect all conflicts of interest disclosures, abstentions from voting, and the existence of a quorum in consideration of all conflicts and abstentions.

The Board of Directors shall comply with the voting and disclosure provisions of the Director Conflict of Interest Section of the Nonprofit Corporation Law NC GS 55A-8-31. Article IV, section 6 of the of the bylaws detail specific and comprehensive measures the Board adopts to proactively avoid actual conflicts, including the requirement that all Board of Directors sign an annual statement that he/she:

1. Has received a copy of the conflicts of interest policy
2. Has read and understands the policy,
3. Has agreed to comply with the policy, and
4. Understands that the Corporation is a charitable organization and that to maintain its federal tax



exemption, it must engage primarily in activities that accomplish one or more of its tax-exempt purposes.

The bylaws also include a due process by which a perceived conflict may be investigated thoroughly to decide if a legitimate conflict exists and empowers the Board to act decisively to correct the conflict should one exist. There are no known conflicts of interest for any of the Board members or their relationships with each other or this School.

**Q166. Explain the decision-making processes the board will use to develop school policies.**

Guided by the school's mission, the board will set policies regarding finances, enrollment, program evaluation, and other operational aspects. The Board's policies will have two purposes:

1. To provide direction to the school staff in implementing the School's goals.
2. To ensure the School meets the legal requirements and obligations of the charter contract.

The Board may also adopt policies throughout the year to address situations and crises. The board may research policies established at other charter schools in the county and state to adopt proven practices and avoid adopting unsound or illegal policies. Guided by existing research and established best practices, the Board may also seek legal consultation when developing policy. Both the board and school leadership will adopt the "School Improvement Life Cycle" as published by Cognia to guide all decision-making processes, particularly those involving school policy. The cycle begins and ends with the gathering and thoughtful analysis of relevant school data. Goals will be established for school policies that match a SMART format (Specific, Measurable, Achievable, Relevant, and Time-Bound). The Board will implement the policies in furtherance of the School's mission and evaluate the impact and relative effectiveness of the policies, thus renewing the cycle of continuous improvement. Furthermore, the School will undergo Cognia accreditation in its third year of operation to provide external review and feedback on the School's programs and decision-making process.

**Q167. Describe any advisory bodies, councils, or associations listed in the organization chart or to be formed, including the roles and duties of that body, and the reporting structure as it relates to the school's governing body and leadership.**



Advisory Bodies or Councils:

Two main advisory groups serve critical roles within the School's organizational structure: The School Advisory Council (SAC) and the Parent-Teacher-Organization (PTO). The School Advisory Council is responsible for developing and reviewing the School Improvement Plan and other roles and duties assigned to it by the Board of Directors. Given the importance of the School Improvement Plan as the document that will guide and evaluate the School's programs, both the Principal and the Board Chair will serve as ad hoc members of the SAC. The remaining composition of the SAC will consist of parents, staff, community members, and, when appropriate, students. To ensure that parents and the local community have the most significant voice in the school improvement process, the SAC will maintain a minimum of 51% non-school membership. The Parent-Teacher Organization's role in the School is responsive; therefore, the PTO will evolve to meet diverse needs as the School grows and becomes more established. In the initial years, the PTO will help establish a positive school culture, broaden the base of volunteers, and increase school-to-home and home-to-school communication. As the School becomes established, the PTO will transition toward increasing vibrancy in the school programs by developing social and community service opportunities for the School. The membership of the PTO will be free of charge to all school community members in the first two years of the School. An executive committee will be established in the first year of the School to provide leadership and direction to the PTO. The Principal and an active Governing Board member will serve on the PTO executive committee to ensure continuity of the School's mission and purpose as realized in the decisions, actions, and events that arise from the PTO. Parents may join the PTO; they will also have several other opportunities for involvement in their children's education. They will be required to attend an orientation session with the student(s). The School will explain the opportunities, expectations, and requirements in that session, setting the stage for expected student progress, achievement, and behavior. This session will be supplemented by other forms of communication, such as mailings, school web pages, teacher web pages, phone calls, emails, newsletters, and the PowerSchool Parent Portal. Parent-student-teacher conferences at GSCA will be safeguarded in the School's calendar and offered each semester or as needed for specific students. GSCA has adopted the workshop model, which includes having students participate in the conference. They will have an opportunity to showcase what they have learned in their content subjects and their academic progress, thus empowering them to take ownership of their learning and achievement. Proudly seeing what their child has learned should strengthen parents' support for this unique learning opportunity. GSCA will encourage parents and community members to attend as many Board meetings and school events as possible to provide an interactive connection to the community.



The PTO and SAC Chairs will be invited to attend all Board Meetings. Regular Board meetings will be held in the evening so that parents and community members can attend; agendas will be posted at least 24 hours before each meeting. A time for community input and public comment will be allocated at the beginning of each regular Board Meeting. The Board will provide an open atmosphere to encourage parents and the community to provide feedback and input on the School's governance, leadership, and other matters. Parents and community members will also be invited to submit their letters of interest and credentials to serve as board members and on PTO and SAC. The SAC will have a more direct impact and involvement in the continuous improvement model of the School. Giving feedback and providing suggestions to the Principal and the Board for improvement of the School's academic programs, climate, and culture will be the primary objectives of the SAC. Their main responsibilities and functions shall be as follows:

- Provide a venue for feedback among all partners, give a voice to the community review, and suggest amendments to the community-related goals for the school program.
- Serve as a conduit to the community about the programs and performance at the School.
- Serve as advising bodies to assist the School in deliberating academic, cultural, and other policies and achievements to create an environment that helps meet the charter's goals.

While parents will elect parent SAC members, teacher SAC members will be nominated by the Principal and approved by the Board. As stated above, the SAC will have a membership of a minimum of 51% parents and a balanced composition of supporting staff and teachers across grade levels and specialties. At GSCA, staff and faculty will be valued as the School's most important assets. Their sense of ownership and full involvement will be critical for the School's success.

**Q168. Discuss the school's grievance process for parents and staff members.**



Parents or Staff who have a grievance at GSCA will use the following procedure to solve issues with other interested parties. Grievances will be resolved promptly, equitably, and in the educational best interests of children. This policy is not intended to replace other professional, informal discussions and resolutions for issues as they may arise.

The grievance process is as follows:

Step 1: To file a grievance, an employee/parent/community member must submit a letter in writing to the Principal of the School. If the Principal of the School is implicated in the grievance, the grievance should be submitted to the Chair or Vice-Chair of the Board.

Step 2: The Principal of the School shall have up to five business days from the time they receive the formal grievance to respond to the grievance in writing. The employee shall submit their satisfaction to the Principal in written form.

Step 3: If the employee/parent is not satisfied with the response, the employee may file an appeal by submitting a letter in writing to the Board. This must be done within five business days of the initial response from the Principal.

Step 4: The Board shall consider the appeal at its next regularly scheduled monthly meeting, provided such meeting is more than seven days after the filing, or the Chair of the Board of Directors may call a special meeting of the Board to consider the appeal in accordance with the Schools bylaws. The Board will consider and discuss the grievance at the meeting in accordance with Open Meetings laws. Any decision of the Board will be communicated to the individual who filed the grievance within five school days. The Board's decision concerning the grievance is final.

The only student disciplinary matters that may be appealed to the Board are those taken under NC. Gen. Stat. 115C-390.7, 115C-390.10, or 115C-390.11.

#### Q169. **Attach Appendix G Organizational Chart**

- **A well-defined organizational chart showing the relationship of the Board of Directors to the parents and staff of the proposed charter school. This chart should also include lines of authority to and from any outside entity that will play a role in managing or supporting the charter school (such as educational service providers, advisory bodies, or parent/teacher councils).**



Upload Required File Type: pdf, image, excel, word, text Max File Size: 30

Total Files Count: 5

Applicant Evidence :


Appendix G Org char...

Uploaded on **4/26/2022**  
by **Laura Howell**

**Q170. Attach Appendix H Charter School Board Member Information Form and Resume**

- A one-page resume from each founding board member and responses to the questions found on the Charter School Board Member Form

Upload Required File Type: pdf, excel, word Max File Size: 30 Total Files Count: 50

Resources


Charter School Boar...

Applicant Evidence :


Appendix H Board re...

Uploaded on **4/26/2022**  
by **Laura Howell**

**Q171. Attach Appendix I**

1. Charter School Board Member Background Certification Statement and
2. Completed Background Check

for Each Board Member



Upload Required File Type: pdf, image, excel, word, text Max File Size: 30

Total Files Count: 50

#### Resources


Charter School Boar...

#### Applicant Evidence :


Appendix I backgrou...

Uploaded on **4/28/2022**  
by **Laura Howell**

**Q172. Attach Appendix J Proposed By-Laws of the Nonprofit Organization or Municipality The proposed by-laws, which must include a Conflict of Interest Policy for board members and a stated commitment to the NC Open Meetings Law.**

Upload Required File Type: pdf, image, excel, word, text Max File Size: 30

Total Files Count: 3

#### Applicant Evidence :


Appendix J Bylaws a...

Uploaded on **4/26/2022**  
by **Laura Howell**

**Q173. Attach Appendix K Articles of Incorporation or Municipal Charter**

- If the applicant is a non-profit board of directors, attach a copy of the articles of incorporation from the NC Department of the Secretary of State.
- If the applicant is a municipality, attach a copy of the municipal charter.



Upload Required File Type: pdf, image, excel, word, text Max File Size: 30

Total Files Count: 5

Applicant Evidence :


Appendix K Articles ...

Uploaded on **4/26/2022**  
by **Laura Howell**



Lisa Weaves

Comments :

Very much appreciate the strength of the board and the deliberateness of its creation and its commitment to maintaining an advisory board in addition.

### 10.3. Staffing Plans, Hiring, and Management

Q174. **Projected Staff** Complete the staffing chart below outlining your staffing projections. Adjust or add functions and titles as needed to reflect variations in school models. Be mindful that your predicted administration and staff match the projected enrollment noted in Section I, course offerings, and align with the proposed budget.

Upload Required File Type: excel Max File Size: 30 Total Files Count: 10

Resources


Staffing Chart Templ...



Applicant Evidence :



Granite Staffing Cha...

Uploaded on **4/26/2022**

by **Laura Howell**

Q175. **Staffing Plans, Hiring, and Management** Explain the board's strategy for recruiting and retaining high-performing teachers.



The GSCA Board of Directors understands that the most essential resource in any school is its teachers. Therefore, GSCA will do everything in its power to recruit, train and employ with longevity highly-qualified, passionate teachers who believe in the mission of GSCA. GSCA will advertise all open positions on the Website, social media, local and national search firms. Once hired, the Principal will coordinate and lead a hiring committee consisting of support staff and possibly one Board member with an educational background to hire the initial core staff. Once a group of teachers is hired, they will become members of the recruiting and vetting committee with the Principal and interview and recommend all instructional staff and other employees. At least one hiring committee member must be a trained workshop model expert and one former CTE teacher or an electives teacher invested in the education in workforce mission. Candidates will sit for an initial interview, and the School may ask teachers to submit a video lesson or, when possible, teach a lesson at the School to demonstrate ability. Once the School has members of a "core founding staff" and in future years of operation, a team interview will occur whereby grade levels or elective areas will conduct initial interviews once candidates have been screened through Human Resources for meeting advertised requirements. Top candidates will be presented to leadership for final selection; then they will be presented to the Board for formal approval. Once the School has selected its candidates, they will be presented to the Board for final approval.

The School will utilize the following recruiting strategies to locate and secure highly motivated/qualified applicants:

- Utilize traditional strategies, such as network and employee referrals, setting-up tables at teacher job fairs at colleges, advertisements on employment websites, online university job postings, and classified advertisements in newspapers and other publications.
- Develop a partnership with the Teachers College.
- While every effort will be made to hire bi-lingual teachers, GSCA may recruit teachers with non-traditional backgrounds to teach the expansive electives. GSCA may take advantage of the charter school's flexibility in teacher hiring in identifying, training, and retaining highly motivated candidates for elective course teachers.
- Starting early will result in a strong staff.
- GSCA will start active teacher recruitment immediately after the charter is approved.
- Advertise a competitive salary schedule and benefits plan
- Involve teachers early to give them more time to prepare and provide them with a sense of ownership. In addition, teachers' participation in opening the School will be very instrumental in developing a shared value system and building the school culture.



Q176.If already identified, describe the principal/head of school candidate and explain why this individual is well-qualified to lead the proposed school in achieving its mission. Provide specific evidence that demonstrates the capacity to design, launch, and manage a high-performing charter school. If the proposed leader has never run a school, describe any leadership training programs that (s)he has completed or is currently participating in. If no candidate has been identified, provide the job description or qualifications, and discuss the timeline, criteria, and recruiting/selection process for hiring the school leader.



The Principal will serve as the School's instructional leader who will motivate and support teachers and staff to strive for superior performance that will engage students and provide them multiple opportunities for academic and personal growth and success. The Principal will be responsible for setting the tone of the climate and culture of the School based on the Mission, Vision, and Guiding Principles outlined in previous sections. The Principal will also create a safe learning environment and establish high expectations for students and staff alike. The Principal will have a history of measurable academic and School performance success and positive relationships with students, staff, families, and community members. The Principal will have a firm grasp on the unique nuances of charter school operations and will be comfortable working for and reporting to the Board of Directors. The Principal will serve as the leader for all daily operations of the School and will have support staff in place as directed by the Board of Directors. Ultimately, the School Principal will report to and be accountable to the Board of Directors, and the Board will be accountable to NCDPI and the SBE for upholding the requirements in the Charter Contract. Qualifications and Requirements for all candidates include:

- NC licensure and certification in Educational Leadership
- A minimum of 3 years of experience as a Principal, preferably in a charter school
- A minimum of 3 years of teaching or leadership experience in the Workshop Model
- A passion and commitment to the mission and vision of GSCA

The Governing Board will recruit and hire a Principal who will then identify and employ the remainder of the instructional staff. The Principal shall be responsible for the day-to-day operation of the School, which includes the following:

- providing a safe and secure environment for students to learn;
- working with and developing the teaching staff;
- addressing student-related issues;
- connecting with the parents and community members;
- overseeing the volunteering component of the School; and
- providing input and support for curriculum development.

The Principal and the leadership team will be responsible for ensuring the School is operating per the mission and vision outlined in the charter application. The Principal will serve as the Instructional Leader, demonstrating mastery of the North Carolina Principal Competencies and making all school-based decisions related to the school operations. The Principal will serve as the School's chief executive and report directly to the Board. The Principal has direct supervision of the organizational management, faculty and staff employment, and fiscal operations of the School. The Principal will be responsible for all aspects of the school operations focusing on instructional areas:



school leadership, mission-centered programming, student instruction, culture, and accountability.

**Q177. Attach in Appendix O the School Leader's Resume** If the school leader has been identified, include the school leader's one-page resume in Appendix O.

**Q178. Provide a description of the relationship that will exist between the charter school employees and the school's board of directors.**

The School will be a not-for-profit, at-will, private employer and will not participate in the NC Retirement System. The employees will be employed by the School under the purview of the Governing Board. The Board will hire the Principal, and the Principal will recommend hiring all subordinate staff. The School will provide a commensurate compensation plan to attract and retain quality employees. The Board will promote a healthy, productive work environment that rewards creativity and performance.

**Q179. Outline the board's procedures for hiring and dismissing school personnel, including conducting criminal background checks.**



The School is an equal opportunity employer and will not discriminate against any applicant, contractor, or employee based on age, race, color, religion, sex, national origin, veteran status, disability, genetic information, or another legally protected status, except where it is an occupational qualification. This policy extends to all terms, conditions, and privileges of employment, the use of the School's facilities, and participation in all activities sponsored by the School. The School's policy also ensures that all employees are treated equally based on merit and performance competence concerning all terms or conditions of employment, including recruitment, hiring, compensation, promotions, demotions, assignments, training, layoffs, and terminations. According to NC Charter School law GS 115C-238.29F (e) (1), all NC Charter Schools shall adopt a background check policy mirroring the local Board of education policy that requires an applicant for employment to be checked for criminal history, as defined in GS 115C-332. The School is required to apply its policy uniformly in requiring applicants for employment to be checked for criminal history before the applicant is given an unconditional job offer. According to NC charter School law, a charter school may employ an applicant conditionally while the board checks the person's criminal history and makes a decision based on the check results. Employment with the School is based on mutual consent; both the employee and the School have the right to terminate employment at any time, with or without notice, and for any lawful reason or no reason. The most common circumstances under which employment is terminated include resignation, discharge, reduction-in-force, or retirement.

**Q180. Outline the school's proposed salary range and employment benefits for all levels of employment.**

The school will compensate all staff commensurate with Chatham County Schools and their advertised supplement to the state advertised scale. Full time employment will be considered as those employees who work on average 30 or more hours per week. Full time employees will be eligible for medical, dental, vision, child enrollment, and any other primary and secondary/elective benefits as the board deems appropriate for the school staff in conjunction with prevailing market conditions and current law. Retirement benefits in the form of a matching 401k/403b type product will be offered to all employees regardless of status.

**Q181. Provide the procedures for handling employee grievances and/or termination.**



Employment with the School is at-will and based on mutual consent. Both the employee and the School have the right to terminate employment at any time, with or without notice, and for any lawful reason or no reason. The most common circumstances under which employment is terminated include resignation, discharge, reduction-in-force, or retirement. No provision in the handbook or any other personnel policy or procedure document shall be construed to the contrary or construed to limit this right or in contravention of any law or legal rights of an employee or employer.

The grievance process is as follows:

Step 1: To file a grievance, an employee must submit a letter in writing to the Principal of the School. If the Principal of the School is implicated in the grievance, the grievance should be submitted to the Chair or Vice-Chair of the Board.

Step 2: The Principal of the School shall have up to five business days from the time they receive the formal grievance to respond to the grievance in writing. The employee shall submit their satisfaction to the Principal in written form.

Step 3: If the employee is not satisfied with the response, the employee may file an appeal by submitting a letter in writing to the Board. This must be done within five business days of the initial response from the Principal.

Step 4: The Board shall consider the appeal at its next regularly scheduled monthly meeting, provided such meeting is more than seven days after the filing, or the Chair of the Board of Directors may call a special meeting of the Board to consider the appeal per the Schools bylaws. The Board will consider and discuss the grievance at the meeting under Open Meetings laws. Any decision of the Board will be communicated to the individual who filed the grievance within five school days. The Board's decision concerning the grievance is final.

**Q182. Identify any positions that will have dual responsibilities and the funding source for each position.**



During operations, some positions may have dual responsibilities. This may occur when a full-time teacher serves as the ELL or AIG Coordinator, or when a counselor also serves as a Testing Coordinator, etc. At times, some personnel may serve dual responsibilities, such as bus drivers may also work in the cafe or as custodial support during the day. The School will work with the finance team to record all Time and Effort documents accurately and ensure that those employees are paid from the proper PRC funds based on the job description and the NC. Finance Policies. This would be best represented by staff paid from State and/or Federal funds (Title 1, EC) or staff paid from various PRC source codes related to ESSER or other CRF grants. The School will maintain accurate Time and Effort and Payroll Activity Reports (PAR) records.

**Q183. Describe the plans to have qualified staffing adequate for the anticipated special needs population and means for providing qualified staffing for EL and gifted students.**

GSCA will have at least one full-time staff certified in EC who will serve as the EC Coordinator. Additional EC teachers will be hired based on the enrollment and service needs of the students according to their IEPs. The Principal and Finance officer/Business Manager will review completed enrollment packages with GSCA leadership to identify all supplemental staffing needs based on student population enrollment data. As the School opens, data collected from student files, home language surveys, and Powerschool/ECATS will help the School quantify the number of additional certified staff needed to provide the appropriate support services and materials for these student populations. The School will continue to hire appropriate numbers of certified staff as students who enroll and are entered into EC, AIG or ELL. In year one, a full-time teacher may serve as the ELL or AIG coordinator in anticipation of serving these students before the school opening. The budget process followed by the board places top priority on flexibility for emerging staffing needs in order to meet specific enrollment demands.

**Q184. Provide a narrative detailing the roles and responsibilities, qualifications, and appropriate licenses that each position must have to be hired by the school's board of directors and effectively perform the job function(s).**



Below is a list of primary roles, responsibilities, and qualifications for integral staff positions. The School is required by the State of North Carolina to conduct criminal background checks for all staff, including full-time, part-time, and substitutes, which will be done upon the acceptance of a conditional employment offer. A criminal records check may also be conducted on a selective, random, or rotating basis for any current employees, annually rehired employees and employees whose contracts are scheduled to be renewed.

Principal: Masters' in Educational Leadership or equivalent, North Carolina Certification reciprocal licensure, 3-5 years classroom experience required, 3 years of Leadership experience required

- Establishes and maintains a safe and effective learning environment in the School.
- Initiates, designs, and implements programs to meet specific needs of the School.
- Assists in the management of the school budget.
- Enforces district and corporate policies and procedures.
- Maintains active relationships with parents and students.
- Budgets school time to provide for the efficient conduct of school instruction and business.
- Schedules classes within established guidelines to meet student needs.
- Meets and instructs assigned classes in the locations and at the times designated.
- Plans a program of study that, as much as possible, meets the individual needs, interests, and abilities of the students.
- Creates a classroom environment that is conducive to learning and appropriate to the maturity of the students.
- Prepares classes for the classes assigned and shows written evidence of preparation upon request.
- Encourages students to set and maintain standards of classroom behavior.
- Guides the learning process toward the achievement of curriculum goals and in harmony with the goals, establishes clear objectives for all lessons, units, and projects to communicate these objectives to students.
- Employs various instructional techniques and instructional media, consistent with physical limitations of the location provided and the needs and capabilities of the students involved.
- Strives to implement the School's philosophy of education and instructional goals and objectives through aligned programming, activities, procedures, and expectations.

Assistant Principal: Masters' in Education Leadership or equivalent, Certificate/Licensure, and a minimum of 3 years of classroom instruction required If a Dean is substituted a Master's Degree may not be required

- Act as Administrator in charge in the absence of the Principal



- Serve as LEA as needed and when appropriate in EC/ELL/AIG/MTSS meetings
- Share with the Principal the responsibility for protecting the health and welfare of students.
- Oversees all matters of student attendance and compliance
- RELves all discipline problems in a fair and just manner and maintains records of any disciplinary action taken.
- Assists in administering practices dealing with campus control and security.
- Serves on the MTSS team; Assists with grade-level data chats and updates data walls/boards, and identifies areas of need
- Has a general supervisory responsibility for student activities, athletic events, programs of student orientation, and similar activities during school hours.
- Assists in assigning faculty to the supervision of co-curricular activities.
- Meets with department heads and/or leadership team to ensure compliance with standards
- Works with the test coordinator in the administration of achievement tests
- Works closely with Principal/Guidance Counselor and Testing Coordinator on the master schedule

EC (AIG/ELL) Facilitator: MS in Exceptional Student Education, ELL/AIG endorsement, Staffing/IEP experience required, and knowledge of ECATS/CECAS preferred

- Supervise EC teachers, Classroom Teachers of EC students, contracted vendors, and EC students
- Coordinate Testing and Evaluations
- Maintain compliance in all IEP cum folders and online platform
- Ensure compliance with all IEP accommodations
- Attend and facilitate all E.C./Staffing/Evaluations/MTSS meetings
- Submission and maintenance of EC Grants and expenditures

Teachers: Bachelor of Arts/Science in Education or field of instruction, Certification/license

- Meets and instructs assigned classes in the locations and at times designated.
- Plans a program of study that, as much as possible, meets the individual needs, interests, and abilities of the students.
- Creates a classroom environment that is conducive to learning and appropriate to the maturity of the students.
- Prepares classes for the classes assigned and shows written evidence of preparation upon request.
- Encourages students to set and maintain standards of classroom behavior.
- Guides the learning process toward achieving curriculum goals and establishes clear objectives for all lessons, units, and projects to communicate these objectives to students in harmony with the goals.
- Employs various instructional techniques and instructional media, consistent with physical



limitations of the location provided and the needs and capabilities of the students involved.

- Strives to implement by instruction and action the school's philosophy of education and instructional goals and objectives.
- Makes provisions for being available to students and parents for education-related purposes outside the instructional day when required or requested to do so under reasonable terms
- Plans and supervises purposeful assignments for paraprofessionals and volunteers.
- Strives to maintain and improve professional competence.
- Attends meetings and serves on staff committees as required.



Lisa Weaves

**Comments :**

Was looking for more detail in this section on the organizational chart. Most schools change in year 1, it is to be expected, but there will need to be a less flat reporting structure for the principal--that many direct reports is just not reasonable.

#### 10.4. Staff Evaluations and Professional Development

Q185. Identify the positions responsible for maintaining teacher license requirements and professional development.



The Principal is primarily responsible for implementing and documenting the Professional Development Plan and holding teachers accountable for participating and implementing best practices in the classroom. Every year, before the start of the school year, the Principal will develop a professional development calendar to provide teachers and staff with initial, ongoing, and follow-up training aligned to the mission and grounded in current student performance data and teacher effectiveness.

The Principal is responsible for identifying and coordinating necessary professional development for all staff and individual teachers based on evaluations and other feedback. The Principal will assign a staff member (i.e., Licensure Director or Human Resources administrator) to maintain all records related to professional development and CEUs required for licensure according to North Carolina statute § 115C-270.20 - § 115C-270.30. This person will ensure that GSCA complies with § 115C-218.90(a)(1) and maintains at least the minimum requirement of 50% of teachers holding a teacher's license. This person will also ensure that all staff are appropriately licensed, have documented professional development opportunities, and maintain active North Carolina licensure and certification. Documentation of licensure and professional development participation will be maintained in SAR. Staff licensure will be documented and reported as requested and in all Federal Funding applications when required, such as Equity Plans. Parents will be notified if their child's teacher is noncertified or not classified as Highly Qualified in accordance to regulations for Title I schools and requirements of ESSA.

**Q186. Provide a detailed plan noting how the school will mentor, retain and evaluate staff in a format that matches the school's mission and educational program. The plan should also describe how the school will meet the teacher certification and licensure requirements for teachers as prescribed by state and federal law. Be sure this overview matches with the projected staff and funding of the proposed budget section.**



Research has shown that the teacher is the most critical factor determining a student's educational outcome. GSCA values teachers as the school's most important assets and strives to provide them with training on the latest research-based best practices so that they can effectively serve their students. GSCA will focus on hiring high-quality teachers with workshop model experience and licensed or certified teachers who can implement the elective components. They will be experts in fields that include STEM curricula, financial literacy, and other hands-on projects ie., construction in math, building projects, etc. Our general education staff will be required to present all core content and curriculum through the Workshop Model which again, will require specific training. All GSCA teachers and staff will have the opportunity to participate in extensive professional learning focused on the workshop model which will help build teacher capacity and effectiveness in the classroom. Many teachers note that appropriate professional development and support are highly correlated to their happiness and comfort level in a school which further develops strong teacher retention. The GSCA professional development program will be implemented in stages. The first year will require all staff to go through basic orientation. As needs assessments are completed and student data becomes available, GSCA will individualize professional development offerings. These professional development opportunities in the School will be provided and teachers will be allowed to participate in local, LEA, or state-level training and professional development that will help them earn the CEUs needed to maintain or convert their licenses. This is another means of retaining highly qualified staff. When you invest in your team, they will invest back into the School. The School will implement a board-approved Beginning Teacher Support Plan to help mentor new teachers. This will be documented and reported to assist with licensure and to ensure GSCA is in compliance with the requirements related to the BTSP.

Finally, The Principal will also appoint a teacher advisory group to provide input on professional development after the school opening. In addition, there is a budgeted area over the first five years for quality professional development needs. Staff will be evaluated using the NCEES platform for continuity and to ensure that Staff who relocate in or out of the School have a consistent form of evaluations and feedback. However, GSCA will also utilize some internal informal evaluations that are developed to measure the effective implementation of the workshop model itself, and other school-based expectations which include specific classroom environment expectations. Documents for these informal assessments can be available. It is equally important for the Principal to share with the Board that the staff is living the mission, and meeting the vision by measuring classroom culture and student engagement. GSCA believes that the hands-on, real-life application of the standards will be highly attractive for teachers and the increased student engagement will continue to lift and increase teacher morale.



Effective Implementation:

As the Principal is directly responsible for overseeing the Professional Development plan, topics to support the School's mission and vision will include:

- workshop model;
- RTI and data disaggregation,
- Participation and completion of specialty electives activities and projects
- Successful parent and community member engagement
- behavior/discipline
- school safety,
- School culture, and
- parent and community relations.

In addition to quality professional development and feedback, staff will be offered competitive salaries with bonus opportunities when funds are available and raises aligned with increases in state per-pupil funding. The operating calendar is attractive to teachers as it is built on instructional minutes as opposed to days, which means the staff has more full days available for PD, parent conferences, and special workshops. The mentor program is especially helpful for new teachers. This comprehensive plan for PD, mentoring, protected time in calendars, and salaries with bonus opportunities will enable GCSA to retain highly qualified staff. Finally, this PD Implementation and documentation plan will enable the School to ensure that GSCA complies with § 115C-218.90(a)(1) and maintains at least the minimum requirement of 50% of teachers holding a teacher's license.

**Q187. Describe the core components of the professional development plan and how these components will support the effective implementation of the educational program. Describe the extent to which professional development will be conducted internally or externally and will be individualized or uniform.**



Professional development will be an ongoing commitment of the GSCA, which will be reflected in the budget lines dedicated to supporting the continuing professional development of administrators, teachers, and staff members. The School will provide very thoughtful and purposeful professional development offerings that will support the School's mission, align with the North Carolina State Standards, and support academic achievement. Professional development offerings will help teachers implement the School's growth plan based on academic achievement and performance goals outlined in this application. Teacher performance will be measured by student growth and achievement and informal and formal observations by school leadership.

The core components of professional development throughout the year reflect GSCA's mission and include the following:

- The Workshop Model
- The language Instruction Initiative
- Vendor Curriculum Materials
- Reading Strategies and Pedagogy
- Content Area Instructional Strategies
- GSCA and State Assessments
- Data Interpretation.

Each component directly supports elements of the Educational Plan as detailed in previous sections. GSCA also recognizes that professional development comes in other forms in addition to workshops. GSCA will also implement the following to support the continued development of our teaching team:

- Mentoring:
  - Mentoring will be a part of the GSCA professional development program. New teachers will be assigned a veteran teacher as a mentor. The new teachers will walk through the evaluation process while participating in a coaching process with the mentor. The administration will closely monitor the mentoring program to ensure its effectiveness. Feedback from both new teachers and the mentors will be collected and analyzed for possible changes each semester. The Principal and other instructional leaders will visit classrooms a minimum of once each week to provide helpful and supportive feedback. Teachers will also be given time to observe instructional and classroom management techniques in each other's classrooms and in the classrooms of peers in sister schools to learn and share best practices.
- Beginning Teacher Support Program:
  - GSCA has drafted a Beginning Teacher Support Program that will define how mentors are selected and used to support new teachers.



- Individualized Professional Development:
  - Each teacher and administrator at the School will be required to outline their own Professional Development plan in addition to the School's Professional Development. This will allow individuals to design a plan to assist in professional growth. As GSCA implements the teacher evaluation program throughout the school year, additional professional development needs can be better identified through the feedback received. The School's professional development plan will include a line item for teachers to attend conferences and training to meet their individual needs.
- Group Professional Development:
  - Group professional development will be offered to introduce new teaching methods and best practices that may be helpful to all GSCA's teachers. Teacher input will be strongly encouraged as training topics are selected. Outside sources will be utilized to train teachers, and teacher leaders within the School who have expertise in various methods will be asked to be school training leaders. Again, the goal is to develop teacher leaders in the School.
- Evaluation of Professional Development Plan:
  - The best measure of the effectiveness of a Professional Development plan is whether it serves its intended purpose: to grow teachers as professionals to serve students' learning needs. GSCA will have a teacher evaluation plan that aligns with the current NC teacher evaluation program, NCEES. Data will be collected and used to identify and provide for professional development needs.

**Q188. Provide a schedule and explanation of professional development that will take place prior to the school opening. Explain what will be covered during this induction period and how teachers will be prepared to deliver any unique or particularly challenging aspects of the curriculum and instructional methods.**



During the inaugural year, the School will require all staff to report to School two weeks before the opening of School, and in all subsequent years, all staff will report to School one week prior to the opening of School. This time will be dedicated to orienting teachers and staff to the various policies, methodologies, and programs that serve as the framework for GSCA. In addition, newly hired staff will be given the assignment to read the School's Charter, exposing them to the School's mission and vision before the school year and providing a framework for discussion during orientation. The initial phase of the orientation will include discussions and presentations on the School's mission, vision, purpose, values, and goals. Next, teachers will complete activities together to build an understanding of the School and build relationships. Allowing teachers to work together will support a working relationship early in the process. All professional development sessions will end with a survey for teachers to complete, along with a review of the day's topics and a question and answer period.

GSCA's pre-service training schedule includes the following topics:

- One full day will be dedicated to planning individualized instruction. Teachers will study both formal and informal data and then plan instruction for individual students and groups of students.
  - GSCA employees will also be required to complete Safe Schools training, FERPA and confidentiality of records, bloodborne pathogens exposure prevention, school safety, bullying prevention, trafficking, and sexual harassment.
  - In addition, they will learn about the general and specific operations of the School, expectations of the School's leadership, the evaluative process for staff, and the establishment of yearly goals with staff involvement.
  - In summary, orientation includes these specific training:
    - School mission and vision and getting to know the Board, the leadership, and the community led by members of the Board.
    - The administration leads school safety protocols, policies, procedures, and ethics.
    - Workshop Model training for all K-8 teachers led by The Teachers College of Columbia.
    - Training for the MTSS process and procedures led by select School staff
    - Lesson plan expectations, including the documentation of standards, accommodations, and services.
    - Purchased materials and programs training led by curriculum vendors.
    - Vendor-based training for elective teachers who will be implementing the elective components.
- These may occur on or off-campus, depending upon the content and options.

Attached as an upload to this question please find a draft PD calendar for staff.



Applicant Evidence :



GSCA draft PD Sched...

Uploaded on **4/26/2022**

by **Laura Howell**

Q189. Describe the expected number of days/hours for professional development throughout the school year, and explain how the school's calendar, daily schedule, and staffing structure accommodate this plan.



The School calendar, daily schedule, and staffing structure will facilitate effective time management for leadership to support teacher growth through observations and evaluations and feedback for growth plans. Professional Development will be provided by The Teachers College prior to the school opening and ongoing throughout the year to support capacity building and to onboard new staff. Additional time throughout the year will offer PD as it becomes needed for individual or whole group support and will be based on evaluations, feedback, surveys, and student performance. Although the School will utilize the state-approved teacher effectiveness plan, NCEES, we will also use internal evaluation and feedback tools drafted to evaluate teachers' instructional pedagogy and effective classroom environments. In addition, the master schedule includes time for common planning and grade-level feedback, and data chats. The Principal's responsibility includes informal walk-throughs and formal observations to rate teacher effectiveness and provide feedback and an action plan for improvement or continuation of best practices. The School operating and instructional calendar are designed to meet the mission of the School. The yearly calendar is drafted at 176 student days and 1144 hours which allows for more staff PD and conference days during the year. Staff is expected to work 196 days, thus allowing up to 20 days for professional development, parent conferences and make-up days for any emergencies. The yearly calendar and the daily operating calendar protect professional development time, planning time, MTSS team data time, and conferencing. Our K-8 model includes a seven-hour day to ensure protected time for workshop instruction, a project work/STEM block, and 30 minutes for MTSS/remediation/acceleration. The calendar also allows for two functions: Grade level common planning time during specials throughout the year and; Professional Development and Conference days during pre-planning and throughout the year that allows external PD to provide full-day training and planning/implementation. Conference days are included to meet the mission of the School related to parent and student engagement and careful implementation of the standards-based reports to share student growth and achievement.

## 10.5. Marketing, Recruitment, and Enrollment



Reaching the full capacity for enrollment will be critical to obtaining the necessary financial resources to keep your school viable and operating efficiently. In addition, it is required by law that charter schools provide equal access to all students. Read the charter school state statute regarding admissions 115C-218.45 carefully.

**Q190. Marketing Plan Marketing to potential students and parents is vital to the survival of a charter school. Provide a plan indicating how the school will market to potential students and parents in order to reasonably reflect the racial/ethnic and demographic composition of the district in which the charter school will be located or of the special population the school seeks to serve: (G.S.115C-218.45(e)).**

GSCA will continue the marketing campaign that is currently a combination grassroots and digital campaign into a full-fledged marketing campaign with broad access to special populations across multiple counties. This outreach will include a targeted direct mail campaign that will send 3 separate postcard drops of 5,000 postcards each into targeted zip code areas, live parent information sessions, attendance at local community events (Farmers' Markets, Festivals, etc.), and door-to-door visits. The outreach will also extend to continue local visits to shopping and retail centers. The Board will work with Builders Associations, Realtors Associations, and Multifamily Housing communities to build awareness and interest in families relocating into this community and provide them with school options that may help them make critical decisions in career and family transitions. The digital campaign includes Google optimizations and ads running on relocation and moving services. This campaign is designed to increase diversity and provide access for economically disadvantaged students through the advertisement of a weighted lottery and by advertising in Spanish as well as English. Our on the ground team has met with many families in all adjacent counties that are Hispanic/LatinX and Black/African American, and are very excited about this innovative program. The outreach campaign purposefully designed to be both local and regional to ensure a diverse student body.

**Q191. Describe how parents and other members of the community will be informed about the school.**



The School has already developed a full marketing/advertising campaign and materials. The following digital media are live and active:

- [www.granitestatecharter.org](http://www.granitestatecharter.org) (<http://www.granitestatecharter.org>) (<https://m.facebook.com/Granite-State-Charter-Academy>)
- <https://m.facebook.com/Granite-State-Charter-Academy> (<https://m.facebook.com/Granite-State-Charter-Academy>),
- <https://www.linkedin.com/company/granite-state-charter-academy/> (<https://www.linkedin.com/company/granite-state-charter-academy/>)

GSCA has also printed brochures and logo shirts for canvassing neighborhoods and attending local events. Once approved, GSCA will launch the campaign, including a targeted direct mail campaign, live parent information sessions, attendance at local community events (Farmers' Markets, Festivals, etc.), and door-to-door visits. The outreach will also extend to continued visits to shopping and retail centers. The Board will work with Builders Associations, Realtors Associations, and Apartment communities to build awareness and interest in families relocating into this community and provide them with school options that may help them make critical decisions in career and family transitions. Lastly, the Board has connections to large commercial firms moving into this area and are interested in supporting/sponsoring the new School. They will help The School connect with their employees to provide educational options for their children.

**Q192. Describe your plan to recruit students during the planning year, including the strategies, activities, events, and responsible parties. Include a timeline and plan for student recruitment/engagement and enrollment, with benchmarks that will indicate and demonstrate suitable recruitment and enrollment practices over time.**



The strategies for recruitment are detailed in the above questions. These will be conducted primarily by the Founding Board and some local community volunteers who support the school's mission. GSCA has already secured support and volunteers to attend informational sessions to distribute flyers and applications. The board works together on social media platforms and shares responsibility for those activities. After approval, GSCA will secure Direct mailers, videos, and other marketing pieces through a 3rd party vendor. A draft calendar of the outreach plan is outlined below:

#### Outreach Plan:

- Direct Mail:
  - Rationale: Recruit students by informing parents of schools in their area. With direct mail, we can identify homes with school-age children and deliver the information directly to the homes where the message will be relevant. Direct mail will be published in English and Spanish.
  - Timeframe: Upon Approval and quarterly through the opening of School in August 2024.
  - Target Area: Zip Codes within 10 miles of the Site radius. Homes/Apartments with children ages 5-13. Zip Codes will include those immediately adjacent to the school site within 5 miles and will then direct 5-10 miles outwards into densely populated areas and areas with Schools at or over capacity.
  - Benchmarks: GSCA intends to mail 15,000 postcards in 3 separate mailers of 5000 each.
  - Measure of Success: Limited amount returned to sender for incorrect addresses and attendance at live/virtual Parent Sessions that are advertised.
- Newspaper Ads/Press Release
  - Rationale: Recruit students by informing people of school celebrations. With newspaper ads, we can reach out to the broader community.
  - Timeframe: Immediately upon approval, a second run will be deployed as soon as a School Leader is identified and ready to start officially.
  - Target Area: School Zone- main Newspaper outlets, community papers, and online news sources.
  - Benchmarks: GSCA will run in a front/significant section of the Newspaper, be "picked up" by online outlets, and rerun at no cost on News media sources.
  - Measures of Success: Noticeable increase in emails, phone calls, or direct inquiries via Social media and increased number of applications for seats.
- Internet/Social Media
  - Rationale: Engage current families and recruit new students by generating interest and live interactions that showcase the School. Through paid advertising on Facebook, we can target parents directly on their phones and computers.
  - Timeframe: Ongoing already. This will increase upon approval and continue throughout the life of



the School because it is currently a popular and successful means of establishing and maintaining constant communication. This also serves as a means for direct communication from the School.

- Target Area: All appropriate Counties: Chatham, Durham, Orange, Wake, and Lee.
- Rationale: Increase targeted marketing to new students who applied and keep engagement high by offering on-campus (or virtual) events at each grade level.
- Timeframe: Ongoing and weekly content will be posted. Invitations to live and virtual events.

These events are planned to run bi-weekly in the evening once per month and once in the afternoon each month. These sessions will increase weekly beginning in February 2024 and run through Summer 2024.

- Benchmarks: Measurable counts of "followers," Page "likes," Page "shares," and increased applications for new enrollment.
  - Brochures
- Rationale: Recruit students by informing parents of the School's educational program, special offerings, and campus culture. Brochures are given out at local businesses and in School recruiting meetings. Brochures are printed in Spanish and English and will be hand-delivered at churches, shopping centers, and apartment complexes to ensure a diverse student population.
- Timeframe: January 2024-July 2024.
- Target Area: Expanded School Zone and targeted communities.
- Benchmarks: Approval and support to distribute printed materials on various commercial and residential fronts.

Measures of Success: Reciprocal partnerships whereby businesses are willing to share our printed materials. We will share their printed materials on our website and social media and include these businesses as our partners and supporters.

**Q193. Describe how students will be given an equal opportunity to attend the school. Specifically, describe any plans for outreach to: families in poverty, academically low-achieving students, students with disabilities, English learners, and other students at-risk of academic failure. If your school has a specific area of focus, describe the plan to market that focus.**



As described earlier in the application, the initial families surveys were published and distributed in Spanish and English to ensure that all local families had equal access to information and the opportunity to provide feedback. All direct mail marketing pieces will be printed and distributed in English and Spanish. The enrollment application will be published in two languages and in hard copy format in two languages. The School intends to offer a weighted lottery to increase the opportunity for economically disadvantaged students. The direct mail campaign is designed to target various residential areas to ensure diversity in the school population. Most importantly, all materials will include the following information:

- The school is tuition-free.
- Bus Transportation available.
- NSLP will be provided.
- Before and Aftercare Program will be offered.
- EC, EL, AIG services will be provided.

**Q194. What established community organizations would you target for marketing and recruitment?**

The Board is fortunate to have established relationships with churches, community centers, retail outlets, residential/community Homeowners Associations, and commercial businesses that have already guaranteed their support. GSCA has many businesses and social service organizations willing to support this effort. These are included in the first sections of the application describing need and support.



Lisa Weaves

**Comments :**

The applicant has invested in building a community of stakeholders which will be significant in marketing, recruiting, and building the school.

**10.6. Parent and Community Involvement**

**Q195. Describe how you will communicate with and engage parents and community members from the time that the school is approved through opening.**



There is a great need to provide additional school options for families, specifically a school of choice with a unique educational focus in this geographic area. GSCA is designed to meet two critical local needs. The first is to provide an innovative educational program that focuses on developing students' talents that can serve as their career-building skills in the future that is not offered anywhere in Chatham or surrounding Counties. The second is to offer seats in a new school that can open in August 2024 to offset record-setting residential and commercial growth. The Founding Board will continue to conduct grassroots outreach to businesses, large associations, neighborhood communities, and neighborhood shopping centers. In addition, the Board will continue to recruit families living in and moving into the Pittsboro area and those families sitting on long waitlists at other charter schools. The Board has a positive relationship with the Leadership at Woods Charter, which has agreed to partner with GSCA and inform their waitlisted students about this new option. Due to the rapidly expanding population, our advertising and outreach will be focused on the new apartment and residential communities through relationships built with those developers and by using targeted marketing campaigns on Google and all platforms of Social Media. As soon as the School is approved, the Board will begin to host live and virtual parent information sessions to bring awareness to the community and dive deeper into what the School's mission means and how the educational program will be delivered. Each Board member has committed to serving as the lead at one or more of these parent information sessions. Other Board members who are deeply connected to this area will implement a community awareness plan that will target all area preschool and elementary schools, residential communities, and homeowner associations. The Chatham County area is expected to continue to grow at an escalated pace, and members of the Board are deeply entrenched in this community. The areas targeted for postcards and intensive marketing and recruiting efforts are included in the appendix as target maps surrounding the School site. The Board and local community supporters will engage the community through public presentations and partnerships with other local agencies and non-competitive schools. Board members are tied to families and businesses in Chatham, Durham, Orange, and Wake County areas and will serve as community liaisons. Our partnerships with the businesses and associations detailed previously will help us develop relationships and partnerships to build interest and enrollment applications as soon as possible. A social media platform is already developed, including our Website, Facebook, Twitter, and LinkedIn. These platforms and relationships will build authentic relationships with future families.

**Q196. Describe how you will engage parents in the life of the public charter school.  
Explain the plan for building engaging partnerships between the family and school that**



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strengthen support for student learning.



### Parent Engagement:

Successful charter schools engage parents in their child's educational experience and support teachers in their goals of facilitating learning in the classroom. Research suggests that when both School and home share the responsibility for students' academic success, social and economic stressors are less apparent. Parental involvement in a child's education process is vital to ensuring that the students are being encouraged at School to be successful and that they are being encouraged at home. Therefore, the School will make steadfast efforts to motivate parental participation.

Dr. Joyce Epstein's work confirms that Bowen's work remains true today. Johns Hopkins University's Dr. Epstein has developed a framework for defining six different types of parent involvement. This framework assists educators in developing school and family partnership programs through these six types of involvement:

1. **Parenting:** Help all families establish home environments to support children as students. Parent education and other courses or training for parents (e.g., GED, college credit, family literacy). Family support programs assist families with health, nutrition, and other services. Home visits at the transition point to elementary, middle, and high school.
2. **Communicating:** Design effective forms of school-to-home and home-to-school communications about school programs and children's progress. Conferences with every parent at least once a year. Language translators to assist families as needed. A regular schedule of useful notices, memos, phone calls, newsletters, and other communications in a language and format
3. **Volunteering:** Recruit and organize parent help and support. School/classroom volunteer program to help teachers, administrators, students, and other parents. Parent room or family center for volunteer work, meetings, and resources for families. Annual postcard survey to identify all available talents, times, and best locations for volunteers.
4. **Learning at home:** Provide information and ideas to families about how to help students at home with homework and other curriculum-related activities, decisions, and planning. Information for families on skills required for students in all subjects at each grade. Information on homework policies and how to monitor and discuss schoolwork at home. Family participation in setting student goals each year and in planning for college or work.
5. **Decision making:** Include parents in school decisions, developing parent leaders and representatives. Active PTO or other parent organizations, advisory councils, or committees for parent leadership and participation. Independent advocacy groups to lobby for school reform and improvements. Networks to link all families with parent representatives.
6. **Collaborating with the community:** Identify and integrate resources and services from the



community to strengthen school programs, family practices, and student learning and development. Information for students and families on community health, cultural, recreational, social support, and other programs/services. Information on community activities that link to learning skills and talents, including summer programs for students.

Parents will be invited to attend several formal events at the School, including curriculum nights that define and address promotion criteria, grade-level expectations, and data conferences. The teachers and the students will share student data on the district and state internal benchmarking assessments. Students will play an integral role in their progress by receiving feedback from teachers on tests, quizzes, projects, and participation. In addition, individual meetings and conferences will be held to review student performance and assessment data as a part of a holistic approach to using student performance and assessment data to improve instruction and learning.

The Parent and Teacher Organization (PTO) and School Advisory Council (SAC) will be formed after the School's opening to create a unique sense of school community that will serve as an essential part of the School's culture. The School and Principal will coordinate with those groups to develop and organize goals and improvement plans, fundraisers events, family events, community service projects, student activities, teacher appreciation activities, school spirit activities, etc. Parents will have several other opportunities for involvement in their children's education. Parents will be required to attend an orientation session with the student(s). At that time, the School's opportunities, expectations, and requirements will be explained, setting the stage for expected student progress, achievement, and behavior. This will be supplemented by other forms of communication such as mailings, school web pages, teacher web pages, phone calls, emails, newsletters, and the PowerSchool Parent Portal.

GSCA will encourage parents and community members to attend as many Board meetings and school events as possible to provide an interactive connection to the community. In addition, the PTO and SAC Chairs will be invited to attend all Board Meetings. The Board will provide an open atmosphere to encourage parents and the community to provide feedback and input on the School's governance, leadership, and other matters. Parents and community members will also be invited to submit their letters of interest and credentials if interested in serving as board members and on PTO and SAC. The SAC will have a more direct impact and involvement in the continuous improvement model of the School. Giving feedback and providing suggestions to the Principal and the Board for improvement of the School's academic programs, climate, and culture will be the primary objectives of the SAC. Their main responsibilities and functions shall be as follows:

- Provide a venue for feedback among all partners and give a voice to the community



- Review and suggest amendments to the community-related goals for the school program.
- Serve as a conduit to the community regarding the programs and performance.
- Serve as advising bodies to assist the School in deliberating academic, cultural, and other policies and achievements to create an environment that helps meet the charter's goals.
- While parents will elect parent SAC members, teacher SAC members will be nominated by the Principal and approved by the Board.

All parents will be encouraged to complete Parent Climate surveys each spring so the School can measure year to year growth in our service and overall satisfaction. Examples of areas where parents and community members will be involved are:

- Open Houses, Career Fairs, Special events: Held yearly to maintain communication and active involvement between the School and community.
- School Website, Monthly Newsletters, and Event Calendars: Updated monthly to disseminate information and maintain open lines of communication.
- Parent-Teacher-Organization (PTO): Coordinates extra-curricular events involving parents, teachers, students, and community members.
- School Advisory Council (SAC): Composed of school personnel, parents, students, local businesses, and community members.

The School will also foster partnerships with the community and its organizations, inviting them to participate as active members in the SAC. This group will help craft yearly School Improvement Plans and review yearly climate survey data with the School leadership. The Board and School Principal will involve parents in the decision-making process by:

- Sending a survey to parents to solicit input before a major policy decision.
- Convening a series of parent and community forums, chaired by board directors, to discuss a major challenge facing the School.
- Hosting monthly parent coffees to create informal opportunities to meet and hear parent concerns.
- Designing the strategic planning process for the School so that there are ample opportunities for parents and community leaders to participate and help shape priorities for the future.

The School will inform parents and community members of decisions affecting the School and its students in a timely and regular basis by:

- Conducting a breakfast briefing for civic leaders to describe the charter school's unique educational program and its positive impact on student achievement.
- Writing personalized letters to all major donors that contributed to the School.



- Including a column written by the Board Chair or his designee in the monthly parent newsletter outlining key school issues.
- Organizing a series of personal interviews by Board directors with the leaders of youth and family service agencies to explore opportunities for collaborative programs benefiting children enrolled in the charter school and their families.



Lisa Weaves

**Comments :**

Very much appreciate use of an advisory group in addition to a parent group.

**Q197.If already identified, describe any programs you will offer to parents and/or the community and how they may benefit students and support the school mission and vision.**

Our School will offer STEM and Construction Family Nights & Challenges, which will allow students, teachers, and families to explore STEM and Construction activities together in a fun way. In addition to utilizing our math, science, and electives departments, we will invite parents to participate and community members to sponsor and volunteer. GSCA will also offer quarterly presentations from the workforce that are interactive and instructional. Students will participate in projects and activities representative of real-life jobs in NC. Financial Literacy Nights will engage parents in the financial literacy curricula and help work with families in establishing Savings accounts for students. Older students will have the opportunity to learn about Savings and interest accounts. In addition to Career Day in the Spring, Career Nights will also be offered. Again, this would allow community members to come into the building and share their expertise with students and families. Parents could assist with coordination and career presentations, allowing working parents to volunteer. Coffee with the Counselor and/or Principal will be held to engage parents and bring in community members to be guest speakers and help solidify School-Home relationships and ensure that the School supports the Parents and the students.

## 10.7. Admissions Policy

**Q198.Weighted Lottery Does your school plan to use a weighted lottery? The State Board of Education may approve an applicant's request to utilize a special weighted, or**



otherwise limited, lottery in certain circumstances. If the charter applicant wishes to deviate in any way from the open lottery normally utilized by charter schools, the following requirements must be met:

1. In no event may a lottery process illegally discriminate against a student on the basis of race, religion, ethnicity, gender, or disability.
2. A lottery process may not be based upon geographic boundaries, such as zip code or current public school attendance zones, unless the charter school is operated by a municipality OR the charter school was converted from a traditional public school. Municipal charter schools may give enrollment priority to domiciliaries of the municipality in which the school is located (G.S. 115C-218.45(f)(7)), and charter schools that were converted from traditional public schools shall give admission preference to students who reside within the former attendance area of the school (G.S. 115C-218.45(c)).
3. A lottery process that deviates from the standard lottery must be based upon the school's unique mission and must be based upon educationally, psychometrically, and legally sound practices, protocol, and research.

- Yes
- No

Q199. Please provide the following: 1) A thorough explanation of how the specific mission of the school, as set forth in the application, requires the utilization of the weighted or limited lottery



Our Mission at GSCA is to provide an education that is Rigorous, Relevant, and Meaningful to each student in a safe, and supportive environment, resulting in Academic, Career, and Technical Excellence. The educational experience at GSCA encourages lifelong learning, fosters mutual respect, and instills social responsibility, respect for diversity, and responsible citizenship. We recognize that North Carolina attracts and successfully recruits new businesses and industries to our State and our region. As a result, we endeavor to develop a well-educated and well-prepared workforce to meet the demands of our growing State and, specifically, our local community. Empowering North Carolinians through excellent education is essential to securing a skilled talent pipeline and achieving a competitive, diverse, and world-class workforce. In today's competitive global marketplace, where North Carolina competes for top talent with economies worldwide, we must do more to strengthen our workforce and fill the talent pool. The Board of GSCA is committed to offering this unique and critical educational program to local families to help ensure that all students have the opportunity to develop their natural talents and find their passion at a young age to help them find a successful pathway into high school, colleges or careers directly out of high school. Many of the families we want to bring into this school are skilled trades workers. We want them to have a place where they feel comfortable and where their children will feel comfortable and celebrated. We need to help children find success in more ways than one, and this school is designed to support a diverse population. It will ensure all support and social services, including food, bus transportation, counseling services, career, technical education workshops, and parent workshops to ensure their students are successful. GSCA believes that the weighted lottery will help those families access this opportunity. By conducting targeted outreach and providing the appropriate support system, these students will be successful in our School and as they mature into future careers. The Board believes that children need options and access to multiple pathways. In today's markets, skilled trades and experts in STEM fields can be highly successful and are desperately needed to fill the openings our NC businesses have now without access to a skilled workforce.

**Q200.2) A thorough description of the processes and procedures the applicant intends to use to effectuate the lottery.**



#### Weighted Lottery Plan:

The School has a board-approved weighted lottery that provides an articulated weight for applicants who meet the Economically Disadvantaged Student (EDS) criteria. In this policy, students identified as EDS will have a 1.5, or additional 50% weight in the lottery system. This will continue until such time as the school achieves its targeted 50% EDS demographic within its population. After such time, all lottery applications will revert to a simple 1.0 or 0% weight. The weighting system will reactivate at any time during the lifespan of the charter where EDS% drops below 40% of the total school population. GSCA will have a proprietary software database for applications and lottery that maintains integrity to the blind lottery and can manage the weighted policy as well. The enrollment application will follow all aspects of NC. General Statute § 115C-218.45. Parents will have the opportunity to complete an optional form, separate from their lottery application, where they can offer family income information to determine if they are eligible for the purposes of the priority lottery. This supplemental form will ask applicants to consent to verify status as FRL eligible by GSCA staff, and will state no specific information will be obtained beyond eligibility status and that the information will not be retained. Information related to the overall lottery and application process is addressed in the questions below.

#### **Q201.3) The underlying research, pedagogical, educational, psychometric, and legal, that supports the request and the procedures the applicant is requesting.**

GSCA is committed to building a charter school with a diverse student body. In order to achieve a diverse population, the marketing outreach campaign will target a variety of neighborhoods, zip codes, and geographic populations. The educational program is designed to improve student outcomes through differentiation and by offering electives in activities that are engaging for children and will develop into lifelong skills and support strong careers for our students. Although our program design has been proven effective in other schools and enrollment will be available for all students, the Board wants to guarantee that students considered disadvantaged have a greater opportunity to enroll in this school and become successful, potentially breaking the cycle of poverty. Researchers have found that even if schools conduct significant recruiting in areas where Educationally Disadvantaged Students reside, better-resourced parents are still at an advantage in navigating the application and enrollment process (Potter, 2019). GSCA believes that having a weighted lottery that gives EDS families an advantage over better-resourced families is a way to provide balance and fairness to the opportunity of attending a public charter school. NC. General Statute § 115C-218.45 allows schools to have a weighted lottery.



Q202. Provide the school's proposed policies and the procedures for admitting students to the proposed charter school, including:

1. Tentative dates for the open enrollment application period, enrollment deadlines and procedures. \*Please be advised schools cannot accept applications until after final approval from the SBE.
2. Clear policies and procedures detailing the open enrollment lottery plan, including policies regarding statutory permitted student enrollment preferences.
3. Clear policies and procedures for student waiting lists, withdrawals, re-enrollment, and transfers.
4. Explanation of the purpose of any pre-admission activities (if any) for students or parents.
5. Clear policies and procedures for student withdrawals and transfers.



GSCA is a nonprofit, tuition-free charter school authorized by the State of North Carolina. As a charter school, the School will be open to all students who would otherwise qualify for enrollment in North Carolina Public Schools. The School will not discriminate against any student based on ethnicity, national origin, gender, or disability. The School will open its first application window immediately after approval and then on November 15th each year thereafter. The open enrollment period will end on January 31st. The lottery will occur on the first Monday of February at 12:00 pm on the school campus. Families do not need to be present in order to be selected. The School will notify all parents who applied via SMS and Email within 24 hours after the lottery.

No criteria for admission will be used except the completed application. The application may be completed online through our website unless a family cannot access the site. In that case, the School will provide a paper application to parents when requested.

The application will include a request for the following:

- student's name,
- parent/guardian names,
- the current address of the student,
- phone number of parent/guardian,
- email of parent/guardian,
- county of residence,
- current grade level,
- their grade level for the coming year,
- student's date of birth,
- the name of any siblings already enrolled at the School,
- declaration of the student's residence in the State of North Carolina,
- confirmation of access to email,
- parent email address and
- an indication as to how the family would like their children entered into the lottery.

The application will include a question regarding the family's income to provide the family with a weighted application priority.



Parents will be asked to confirm both their student's current grade and the grade for the coming year. Parents may not choose which grade they would like their child enrolled in for the coming year. They must enter the actual current grade and the next year's grade as confirmation.

If the student's current School recommends a student for retention and has it documented in the student's file, the student will be moved to the appropriate grade if they have been admitted to the School and will retain enrollment status with School. If the student is on the waitlist at the time the retention decision is made, they will be moved to the correct grade level and placed on the waitlist of their new grade based on the number they were pulled from during the lottery.

#### Returning Students:

Current students at School will not be required to re-enroll. They will be asked to sign a letter of intent for the coming year during January to allow the School to plan appropriately for the lottery

#### Enrollment Priority and Weighted Lottery:

GSCA will follow all rules and regulations regarding enrollment priority as required by applicable North Carolina law.

The following groups will have enrollment priority at GSCA in the order that follows as space permits in each grade:

- Children of full-time employees and board members (may not exceed 15% of the total school population)
- Siblings of currently enrolled students who were admitted to the charter school in a previous year (as determined by Charter School law GS 115C-218.45(f)(1))
- Children who are currently enrolled in an NC Charter School



- Economically Disadvantaged Students: GSCA will institute a priority lottery for the remaining seats available to achieve 50% of our students meeting the "Economically Disadvantaged" (ED) criteria, defined by meeting national Free and Reduced Lunch (FRL) criteria.

With each lottery, the Principal will identify the number of FRL seats available per grade level to balance students admitted across grade levels, total seats available, school resources, and planned annual target.

Families will have the opportunity to complete an optional form, separate from their lottery application, where they can offer family income information to determine if they are eligible for the priority lottery. This supplemental form will ask applicants to consent to verify status as FRL eligible by GSCA staff and will state no specific information will be obtained beyond eligibility status and that the information will not be retained.

#### Weighted Lottery Implementation:

The school will conduct the weighted lottery within the general lottery. In this scenario, students that have a weight will utilize that as a multiplier prior to the run of the lottery, thereby increasing their net chances for selection according to the weight. The lottery will be run once weighting factors have been applied, and all non-lotteried students will be awarded waitlist spots in accordance with the lottery draw, where the first student to not be awarded an open seat will receive first position on the post-lottery waitlist. Students that applied after the annual open enrollment period has closed will be placed in the last open position on the waitlist in the event a seat is not available.

#### Bundled Policy for Siblings:

All children in a family are "bundled" together under one unique lottery registration number, but will only be registered to run in the lottery under the name and grade of the oldest child ("Primary Registrant"). If the "Primary Registrant" child is admitted, all siblings bundled on the registration form will be eligible for placement in their respective grade level immediately, as long as there is an opening. If there are no openings, they will be placed on the preferred waitlist for the respective



grade level. If the "Primary Registrant" is placed on the waitlist, the other siblings will also be placed on the waitlist for their respective grade levels. We intend to provide Lottery Procedures that benefit families but are fair and consistent for all of our applicants.

#### Multiple Birth Siblings:

If multiple birth siblings apply to the School, their surname will be entered once to represent all of the multiple birth siblings. If the multiple birth siblings are pulled in the lottery when there is still at least one spot remaining in their grade level, all multiple birth siblings shall be admitted. If their application is pulled after the spots are filled, they will be added to the waitlist in the order they are listed.

#### Lottery Procedures:

After the initial year, before the general enrollment lottery, the School will conduct a sibling lottery of the students admitted in the prior year if more siblings have applied than there are available spots. If there are more siblings that have applied than there are spots available, a grade level waitlist will be started, and students not receiving spots will be added to the waitlist in the order in which they are pulled. Once the sibling lottery has been completed (if needed), the general lottery will begin.

GSCA will place all applications received during the open enrollment period into a lottery. The lottery will be run based on grade level. It will fill the oldest grade level first and move down one grade at a time, ending with kindergarten.

If the "Primary Registrant" child is admitted, all siblings bundled on the registration form will be eligible for placement in their respective grade level immediately, as long as there is an opening. If there are no openings, they will be placed on the general waitlist for the respective grade level. If the "Primary Registrant" is placed on the waitlist, the other siblings will also be placed on the waitlist for their respective grade levels.



The School will add the remaining applicants to the waitlist in the order they are pulled from the lottery. This waitlist will be used in the event that a spot opens and the School chooses to fill the vacant position.

#### Lottery Results:

The School will post the lottery results on the website within three business days of the lottery. If a student has been admitted to the School, the parent/guardian of the student will be contacted via email unless they indicated on their application that they did not have access to email. If the parent cannot receive the email, an acceptance letter will be mailed to the child's residence.

The results and the waitlist will be updated monthly to allow parents to determine their current place on the waitlist. Parents of students placed on the waitlist will not receive communication via email or mail as to their student's place on the waitlist. Instead, they will be asked to look at the waitlist information placed online to determine their spot on the waitlist.

#### Students Applying after the Open Enrollment Period:

Any students applying after the open enrollment period will be placed in their respective grades if space is still available. Otherwise, they will be placed directly after any waitlisted students from the lottery in the order the application was received.

#### Enrollment:

Students admitted on or before May 15th will have ten calendar days from the date their acceptance email was sent to accept or decline enrollment and 30 days from the time of the acceptance email to turn in enrollment paperwork. If a student is admitted after May 15th, they will have seven days to accept or decline enrollment at the School and ten days to return the enrollment paperwork. If a student is admitted after July 15th, they will have 48 hours to accept or decline enrollment at the School and five days to return the enrollment paperwork. If the school does not receive an enrollment confirmation and the paperwork back in the specified time period, the Head



of School may decline enrollment to the student and offer the spot to the next student on the waitlist. If enrollment is declined and then a parent later decides they would like to send their student, they will be asked to submit a new application, and they will be placed on the waitlist in the next available spot. As spots at the School become available, the parent/guardian of the student will be contacted via email. If the parent does not have access to email and has specified that on their application, the School will mail a letter of acceptance to the child's residence. A phone call will also be made to the parent, notifying the parent of the student's acceptance and applicable deadlines for the return of enrollment paperwork. Every effort will be made to communicate promptly with all accepted families.

#### School's Right to Refuse Enrollment:

The School reserves the right to refuse to enroll any student currently under a term of expulsion or suspension by his or her School until that term is over. The School reserves the right to refuse to enroll a student if a parent falsifies information on the enrollment application/registration form(s). If a student has accepted enrollment at the School but does not appear at the School in the first two days of school, the School will make reasonable attempts to contact the parents. If there is no response from the parent by the 3rd day of school, the School reserves the right to remove the student from their enrollment roster and offer the next student on the waitlist the spot.

#### Enrollment Forms:

Enrollment forms will include but are not limited to the following:

1. Proof of North Carolina Residency.
2. Permission to request current school records.
3. Immunization Records.

#### Withdraws and Transfers

A custodial parent/guardian may disenroll a student at any time for any reason. When a parent/guardian decides to withdraw from the school, the school office will have them complete a withdrawal form. This form will ask the reason for the withdrawal (if anything other than relocation) so that the school can use this feedback as a means of informing improvement. The form will also request information on the school the child(ren) is enrolling so that the school can provide records to the receiving school.



## 10.8. Certify

Q203. This subsection is entirely original and has not been copied, pasted, or otherwise reproduced from any other application.

- Yes
- No

Q204. Explanation (optional):

## Section



Lisa Weaves

### Ratings

Exceeds  
the  
Standard

The response reflects a thorough understanding of key issues. It clearly aligns with the mission and goals of the school. The response includes specific and accurate information that shows thorough preparation.

### Comments :

The applicant has invested significant time into building a strong community of stakeholders and intentionally creating a unique school to fit a proven need.



## 11. Operations

### 11.1. Transportation Plan

Q205. Describe in detail the transportation plan that will ensure that no child is denied access to the school due to lack of transportation. Include budgetary assumptions and the impact of transportation on the overall budget. The details of this plan should align with the mission, identified need for the charter school, targeted student population, and the budget proposal. If you plan to provide transportation, include the following:

1. Describe the plan for oversight of transportation options (e.g., whether the school will provide its own transportation, contract out for transportation, attempt to contract with a district, or a combination thereof) and who on the staff will provide this daily oversight.
2. Describe how the school will transport students with special transportation needs and how that will impact your budget.
3. Describe how the school will ensure compliance with state and federal laws and regulations related to transportation services



As needed and in accordance with NCGS § 115C-218.40, GSCA will provide buses for students who live a reasonable distance from the school, which would be considered from a 1.5 mile to an approximate 10-mile radius from the geographic center of the school's physical location. Deployment strategies and costs are reflected in the school budget and described in further detail below. GSCA is committed to ensuring that transportation is not a barrier to enrollment in the school and may adjust this as the school organically builds enrollment from the surrounding area. Programmatically, bus routes will consist of depot stops strategically placed at safe locations where enrolled students are concentrated since admission to the school is not predicated upon the location of a student's residence, rendering typical bus routes based on established school zones impractical for the purposes of a charter school. The stop locations will be within the dense population centers such as neighborhoods to allow for said depot-type stops to be utilized by the school and students while also allowing for reasonable transit times for students to be on the bus itself. GSCA will offer bus seats on a first-come, first-served basis. For families who enroll who do not choose bus transportation or in the event interest in transportation exceeds the scope of the bus system, parents may provide daily transportation to the school through other means facilitated by the school. GSCA will facilitate carpooling and community pickup points via online signups, accessible through the school's website. The school will also contract with approved vendors for field trips, local competitions, and athletic events as needed and as articulated in the respective lines of the school budget. Whether owned, leased, or contracted, buses will meet all regulatory and safety requirements and have current inspections. All bus drivers will be certified and meet all criteria to hold a CDL Class A driver's license. Several successful charter schools in the state employ these practices successfully within their programs. Since Bus Transportation is a significant unknown variable with new charter school operations due to the lack of conventional zoning or district, the budget includes a substantial fund that will account for the costs of providing bus transportation service as described above.

GSCA plans to either: contract with a 3rd party vendor for bus transportation services or purchase buses outright through the Carolina Thomas financing program through Daimler-Chrysler/Mercedes. The budget line item for transportation is sufficient for both options. Nationally, certified bus drivers are in critical shortage, so this decision may involve the ability to staff the buses versus the ability to afford the transportation costs. The Board has obtained a preliminary quote for contracted transportation as depicted above and can produce it upon request. The school at its discretion may elect to either "in house" bus service, contract with a qualified vendor or local district, or a combination thereof. The school principal or their delegate will be responsible for adjudicating daily transportation services and may work in conjunction with the representative of the



vendor/district. The school's student handbook will include expectations of behaviors/rules on the bus and at bus stop locations and will also describe the various infractions and potential consequences of violations. The board will annually review all transportation policies as part of its policy review schedule. The buses and drivers will meet all requirements of eligibility for service. For drivers, regardless of employer, each will hold a valid CDL Class A license with an S endorsement and be enrolled in the DOT random testing program per federal statute § 382.305. Buses will be inspected prior to first use by a qualifying NCDOT authority, and subsequently inspected annually, or otherwise as regularly as would be customary for a typical bus in a school district. As it relates to general education students, the School will also facilitate an efficient carpool/carline plan that enables all families to access the school if bus transportation is unfavorable. In addition, the School site will be designed to run an efficient arrival and dismissal protocol that is safe for staff and families, regardless of means of transportation. Finally, GSCA has planned for early and aftercare programs that will provide different options for parent drop up and pick up that may offer necessary flexibility. If transportation is deemed a related service under IDEA via a current and confirmed IEP for a qualifying enrolled student by an IEP team, the school will provide transportation at no net cost to that student. This may manifest in one of two legal and proven methods for resolving this related service item in the event the school's current transportation service is insufficient: 1. The School contracts with an outside vendor. 2. The School reimburses the parent for transportation costs. These contemplated costs would be eligible as EC expenses so could be classified to expense areas in the school budget outside of general transportation costs. As indicated above, the school intends to surpass current law by providing a reliable and organizationally sound mass transportation system for enrolled students. In the event that the bus system or other conventional measures articulated in this section of the application fail and transportation becomes a barrier for the child to attend school regularly, the school leadership team will confer with that family and develop an individualized transportation plan or otherwise facilitate an iteration of the other options described so that the child may successfully attend school. This includes but is not limited to students that are eligible for transportation service under McKinney-Vento, and corresponding expenses pulled from eligible funding PRCs.

## 11.2. School Lunch Plan

**Q206. Describe in detail the school lunch plan that will ensure that no child is lacking a daily meal. The details of this plan should align with the targeted student population and school budget proposal. If the school intends to participate in the National School**



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Lunch Program, include the following components in the response:

1. How the school will comply with applicable local, state, and federal guidelines and regulations;
2. Any plans to meet the needs of low-income students; and
3. Include how the school intends to collect free- and reduced-price lunch information from qualified families. If a school intends to participate in the Community Eligibility Provision, describe the methodology the school will use to determine eligibility.



The school breakfast and lunch programs at GSCA are designed to produce a fully functional NSLP compliant program on a cost-neutral basis for the school. The program will first undergo a state-approved RFP process and meet all applicable criteria to operate under DPI and NSLP guidelines in order to serve reimbursable meals. The School will then either contract with a private provider (caterer) to prepare school breakfast and lunch meals or will prepare and serve food on site. Notwithstanding either option, the School will provide or otherwise facilitate appropriate foodservice equipment including (warming) ovens, hand-wash sinks, triple sinks (for equipment and utensil washing), and refrigeration to store food and meal components once it has been delivered to the school site and prior to serving students. All food handlers will be required to complete Food Handling Training as mandated by the County Department of Health and Human Services and NCDPI's HACCP Plan. The permanent school facility will also include a cafeteria that meets state nutritional and sanitation standards. Furthermore, the school will adhere to dietary guidelines under the National School Lunch Program for all meals and snacks served under said program. The school or private vendor if selected will be required to maintain and supply daily records of all meals served and current copies of inspection and health certificates. The school agrees to have inspections as required to maintain the Health Permit from the NC County Department of Health and Human Services. Student meal counts and records of student participation in the National School Lunch Program will be maintained. The school will act as the "School Food Authority (SFA)" of the local food service program and will file reimbursement reports directly with the NCDPI's School Nutrition Technology System. The school will produce a monthly menu that meets the requirements of the National School Lunch Program and NCDPI. These menus will be published monthly and presented to parents and students. A copy of these menus will be kept with the record(s) of student participation. Either the food vendor or the school personnel will be required to submit evidence of proper meal balance and portion size. As the School Food Authority (SFA), the school will ensure that its point-of-sale system accurately provides a count of reimbursable meals by category (i.e., free, reduced price, paid) served to eligible students. These counts will be taken at the time and point of meal service and only meals that meet meal pattern requirements will be counted and claimed for reimbursement. The school will adopt the sanitation and reporting requirements prescribed by Chatham County's Health Department in conjunction with NCDPI's SAS personnel. The local health department will be notified of the school's existence and intent to provide food service to public school students as described herein. The school will apply for a "Permit to Operate" and always maintain current certification/licensure. The School will follow the following procedures when distributing and processing Free and Reduced Meal Applications:

1. The school will distribute a Free and Reduced Meal Application to all of its students within the first five days of school. Applications will be available in multiple languages and the school. The board is



also aware that a universal online application exists through LINQ at [lunchapplication.com](http://lunchapplication.com) that may also be a solution for this process.

2. Returned applications will be evaluated by the School's designated Business Manager on the basis of the current table for income and the number of persons in the household to determine free or reduced-price status.

3. A response will be sent to the student's parent/guardian. In accordance with the National School Lunch Act (42 U.S.C. 1751(b)(2)(c)), a confidential list is then compiled and forwarded to the cafeteria manager.

4. Meal benefits begin the day the application is approved, continue through the school year in which the application is approved, and extend for approximately the first 30 days of the next school year. All students approved for free or reduced-price lunch are entitled to receive breakfast in the same category.

5. Applications will be retained for three years beyond the current eligibility year.

6. Edit checks will be completed to compare the number of free and reduced-price meals claimed to the number of approved active applications.

7. Applications will be kept confidential as per USDA requirements.

8. The school will collaborate with the district to process as many students as possible via a Direct Certification Method utilizing data provided by the district by NCDPI.

9. Records will be kept regarding how applications were selected for verification, the date(s) notices were sent, notes on contacts made, the results, reasons for any changes in eligibility, and the official's signature.

10. Appropriate nondiscrimination notices will be made including the prominent posting of the USDA nondiscrimination poster.

11. When able, the school will obtain a listing of students who are directly certified for free/reduced lunch from the NCDPI CORE Direct Certification system. To that end, students who currently qualify for the following programs will also immediately qualify under NSLP guidelines (from DPI website):

- All children in households receiving benefits from Food and Nutrition Services (FNS, formerly known as Food Stamps), the Food Distribution Program on Indian Reservations (FDPIR), or Cash Assistance (CA), are eligible for free meals.
- Foster children that are under the legal responsibility of a foster care agency or court are eligible for free meals.
- Children participating in their school's Federally-funded Head Start program are eligible for free meals.
- Children who meet the definition of homeless, runaway, or migrant are eligible for free meals.
- Any other programs deemed by federal law to directly certify students' eligibility for free/reduced lunch.

The Board of the School has begun to research private food vendors in the event this is the direction



that is taken. These national food vendors provide pre-plated meals to school systems and charter schools throughout the United States. Their program requires no capital investment on the school's part, thus allowing for capital investment money to be used elsewhere. They provide convection ovens, freezers, equipment maintenance

and will work within the available space. Their food service system provides savings in staff time and physical space. Some of their turnkey features are:

- Menu planning
- Nutritional analysis for menus
- Printed graphic menus for every enrolled child
- Distribution of all products to the individual school sites
- Continued maintenance of equipment they install at all sites.
- A marketing program designed to increase nutrition awareness for students, staff, and parents.
- Training programs for school foodservice personnel (training manual included)
- Utilization of USDA commodities offered to the school district
- Merchandising materials
- Emergency meals that can double as field trip meals
- Complete corporate support to provide ongoing assistance in personnel training
- Required insurances
- Product safety
- Inventory controls
- Menu Support
  - Preferred dietitians and food nutritionists ensure National School Lunch Program requirements are met; all products are trans-fat free
  - Will work with school staff to initiate ongoing programs to encourage participation and to develop new menu items
- Marketing program to encourage participation
  - Monthly Theme Promotions
  - Breakfast Promotions
  - Monthly menu in the newsletter
  - Program tie-ins with colorful, educational tray-liner themes and menus
  - Theme days and monthly monotony breakers

### 11.3. Civil Liability and Insurance

The Nonprofit shall name the SBE as an Additional Named Insured to their liability coverage for



operation of a charter school while obtaining and maintaining insurance at a minimum in the following amounts:

1. Errors and Omissions: one million dollars (\$1,000,000) per occurrence;
2. General Liability: one million dollars (\$1,000,000) per occurrence;
3. Property Insurance: For owned building and contents, including boiler and machinery coverage, if owned;
4. Crime Coverage: no less than two hundred fifty thousand dollars (\$250,000) to cover employee theft and dishonesty;
5. Automobile Liability: one million dollars (\$1,000,000) per occurrence; and
6. Workers' Compensation: as specified by Chapter 97 of NC General Statute, Workers' Compensation Law

**Q207. Complete the attached table, indicating the amount of each type of coverage as outlined in a quote obtained from an insurance provider.**

Upload Required File Type: excel Max File Size: 30 Total Files Count: 10

#### Resources



#### Applicant Evidence :



Uploaded on **4/26/2022**  
by **Laura Howell**

**Q208. Attach Appendix L: Insurance Quotes**

- The applicant must provide a quote from an insurance provider as part of this application (as Appendix L) to demonstrate the levels of insurance coverage and projected cost.



Upload Required File Type: pdf, image, excel, word, text Max File Size: 30

Total Files Count: 5

Applicant Evidence :



Uploaded on **4/26/2022**  
by **Laura Howell**

### 11.4. Health and Safety Requirements

All public charter schools are required to follow the regulations regarding health and safety as stated in G.S. 115C 218.75.

Q209. **We, the Board members will develop a written safety plan and policies to be shared with staff, parents, and students and be available upon inspection from the Department of Public Instruction and local Health Departments. The Board Chair must sign this question.**

Signature

### 11.5. Start-Up Plan



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Q210. Provide a detailed start-up plan for the proposed school, specifying tasks, timelines, and responsible individuals (including compensation for those individuals, if applicable).



The School will implement the below detailed action plan that will assure the timely opening of the school. Special care and attention will be given to developing the innovative components of the School as outlined in the mission, educational and curriculum sections of the application and effectively communicating them to the School’s staff and parents, throughout the timeline in the action plan.

Start-up Action Plan for August 2024 First Day Opening

Item	Timeline
State Corporation Filing	Complete
Site Selection - initial vetting of adequate facilities and due diligence	December 2019- May 2024
Approval of application by school district	April 2023
Board participation in Post Application approval Training: board members will focus on governance, facility, budget and staffing	April 2023-2024
Corporation filing 1023 for 501c3 approval	April 2023
Develop Board Policies & Procedures	April 2019-August 2024
Complete site plan, permitting and financing for facility and FFET	May – September 2023
Governing Board Elections	August 2023 (Annually Thereafter)



2022 NC CHARTER APPLICATION  
NC Public Charters



Construction Begins	October 2023
Begin Official Marketing Effort for enrollment and community outreach	October 2019
Principal Begins Work	January 2024
Advertised Open Enrollment Period	January-March 2024 (Annually Thereafter)
Teacher Recruitment	January 2020 – July 2024
Parent Orientation Meetings highlighting the school's program	June 2022-August 2024
Develop RFPs for identified service contracts: EC, Audit, Transportation, etc.	August 2022 (Annual Review/RFP Thereafter)

Open Enrollment Period Ends. Lottery is held. Open seats post-lottery filled on a first come, first served basis	April 2024 (Annually Thereafter)
Student registration period	April 2024 – Ongoing



Selection and Hiring of staff per staffing plan	April 2024- July 2024
Coordinate summer and preplanning PD calendar for staff	April 2024 – June 2024
Finalize & Order Furniture, Fixtures, Equipment, Technology and Curriculum (paid for with funds from long term loan)	April 2024
Board Member Ongoing training	May 2019-July 2024
Complete pre-opening checklist	May 2023-July 2024
School Principal, Business Manager and EC Coordinator and Financial Accountant School Opening Training Complete	June and July 2024
Facility construction complete, CO issued	July 2024
501c3 approval received	May 2024
Delivery and installation of FFET. Curriculum materials delivered	July-August 2024
Staff orientation and PD, preparing for first day of school	August 2024

**Q211. Describe what the board anticipates will be the challenges of starting a new school and how it expects to address these challenges. Submit a Start-up (Year 0) Budget as Appendix O, if applicable.**



The Board understands that all new charter schools encounter different challenges that will require creative solutions, and dedicated members work through those items. Our school's challenges may include widespread communication, particularly communicating our school's mission to more families from the Chatham County community, or relocating to Chatham where GSCA is a tuition-free school offering a vigorous and enriching educational curriculum. GSCA will need to broaden our community partnerships, particularly with the local community colleges as well as local businesses to better educate and prepare our students to prepare in performing the workforce. Financial and facility barriers may present themselves; however, developing partnerships and fund-raising may help in these regards. GSCA has a financial partner and a plan for developing a specific site, but other charter schools have met unforeseen delays or barriers in construction. Recruiting staff that shares the school's vision and mission, and meeting competitive salary requests of those highly qualified candidates could pose a challenge during this well-advertised critical shortage in staff. Finally, GSCA is a new School with new post-Covid challenges that may force our board to be creative and pragmatic in its decision making and implementation of processes and policies. To that end, the board will listen to stakeholders and process their input in order to best serve our students.

**Applicant Evidence :**


Appendix O start up ...

Uploaded on **4/26/2022**  
by **Laura Howell**

## 11.6. Facility

Note that the SBE may approve a charter school prior to the school's obtaining a facility; however, students may not attend school and no funds will be allocated until the school has obtained a valid Certificate of Occupancy for Educational use to the Office of Charter Schools.

**Q212. What is your plan to obtain a building? Identify specific steps the board will take to acquire a facility and obtain the Educational Certificate of Occupancy. Present a timeline**



**with reasonable assumptions for facility selection, requisition, state fire marshal and health inspections, and occupation.**

The Board is already in negotiations with a private real estate developer who will assist in securing the land. Financing and construction of the school facility will occur in accordance with the startup plan submitted under question 210. Before the school begins operations, DPI will be provided with documentation of ownership or lease of the facility and certification that the building satisfies all occupancy requirements. The facility layout will be decided upon through a collaborative effort of the Board and the pre-construction team and will include a design based on current research on safe schools, adequate classroom and office space, appropriate outdoor recreational areas, designated pick-up and drop-off zones, and parking for staff and visitors. Since this project will either be a upfit to a leased space, or new construction, either will be built in compliance with the most current code iterations of the American Disabilities Act and general health and safety codes. This includes being designed by an architect, built by a general contractor, and inspected and approved by county inspectors during the permitting and construction phases. The Board will work closely with all contracted experts to ensure a timely completion of the facility. In the event the charter application is approved, the school will immediately issue an RFP for design and construction. Once the charter is awarded, the school will vigorously pursue a permanent facility and continue work on an intermediate and temporary facilities as described in various locations within the application. Funding for a permanent facility has already been offered by a major financial institution and is referenced in Appendix M. Attached as an upload to this question are two LOIs that the board has obtained as further evidence of the content presented in this section of the application.

**Applicant Evidence :**

	
LOI_Granite_State co...	Bold Building SCHO...

Uploaded on **4/28/2022**  
by **Laura Howell**

Uploaded on **4/28/2022**  
by **Laura Howell**

**Q213. Describe the school’s facility needs based on the educational program and projected enrollment, including: number of classrooms, square footage per classroom, classroom types, common areas, overall square footage, and amenities. Discuss both short-term and long-term facility plans. Demonstrate that the estimate included in your**



### **budget is reasonable.**

The School anticipates construction of an approximately 60,000 square foot efficiently designed, two-story educational facility with a controlled single ingress point. This facility will be designed to accommodate approximately 800 students in grades K-8 and will operate as a public charter school. Classroom sizes will approximate 700 sq. ft. each. The gymnasium will operate as both the cafeteria and the indoor physical education and general assembly space for students. Outdoor amenities will include a developmentally appropriate playground and flat green space for outdoor PE and practice fields for athletic programming. There will also be space reserved for parking and an arrival/dismissal loop for drop-off and pick-up of students via passenger vehicles and school buses. In the event that new construction is not practical, the school has also secured an offer to lease a substantial space within our target area. This facility previously housed a North Carolina public charter school at one time, so is a highly conducive alternative primary option for the school for an opening that will allow the school to stabilize enrollment and program prior to transitioning into a permanent location. As both construction costs and finance rates have seen unprecedented price instability due to outside economic factors, the board believes it necessary to pursue both options as if they were the primary choice for the school's opening facility, with the understanding that the leased space would be an intermediate time option of not to exceed five years of tenancy. Notwithstanding the above, from our research and discussions with commercial real estate brokers, general contractors, and real estate developers, we anticipate the total cost of a new facility would be between \$16 and \$20 million, depending on the final size and scope of the facility. This would translate into an estimated annual facility cost that assumes a typical charter school financing rate of 5-6.5%, depending on market conditions, and respective costs that are accurately depicted in the proposed budget submitted as part of this application. As stated above, the Board has already received one funding commitment to finance the permanent facility from a nationally recognized and reputable investment banking firm specializing in commercial charter school real estate. In addition, the Board has also received a funding commitment for all furniture, fixtures, and equipment necessary to open and operate the School. The funding commitment is approximately \$1,250,000 and is contemplated in the overall facility bond financing described above and in the appendix. Financing is the most significant barrier that start-up charter schools face when acquiring an appropriate permanent facility.

**Q214. Describe school facility needs, including: science labs, art room, computer labs, library/media center, performance/dance room, gymnasium and athletic facilities, auditorium, main office and satellite offices, workroom/copy room, supplies/storage,**



**teacher workrooms, and other spaces.**

The building when completed is anticipated to house approximately fifty all-purpose classrooms, a gymnasium/cafeteria multipurpose area with accompanying kitchen and service area, a music/band room, science lab, art lab, technology lab, storage, administration areas, and offices. Ultimately, the layout will be decided upon through a collaborative effort of the board and the design team. As referenced above, the facility will include a design based on current research on safe schools, adequate classroom and office space, appropriate outdoor recreational areas, designated pick-up and drop-off zones for vehicles and buses, and adequate parking for staff and visitors.

**Q215. What is the breakdown of cost per square foot for the proposed facility? Outline how this cost is comparable to the commercial and educational spaces for the proposed school location.**

As described in the budget portions of the application, the current proposed per square foot pricing would approximate \$200 per sq. ft. for new construction and approximately \$20 per sq. ft. per year for leased space. These costs have been researched and cross referenced against actual charter school completed deals/financings/projects that have been brought to fruition in the RDU area over the past sixteen months.

**Q216. Facility Contingency Plan: Describe the method of finding a facility if the one the board has identified will not be ready by the time the public charter school will be opening. Include information regarding the immediate spatial needs of the school and identify any programs that will not be immediately offered because a permanent facility has yet to open.**



In the event that the school elects to pursue the immediate new construction option, should the construction progress not be sufficient to guarantee delivery of the school facility by the beginning of the school year, and in the event that the lease space option is no longer available, a contingency plan has already been established and will activate approximately six months prior to the initial opening of the School. The School has received interest from Wilscot to construct a temporary school facility in the event that the primary facility is not ready for school opening. The focus of the Board will shift to the development of a site utilizing modular classroom space, which will suit the School's needs for a 1–3-year span. Approximately four modular units with eight classrooms each would be required to open the school according to the initial years' plan. Additional units may be added should the School choose to remain at the alternate site for the following school year. Local churches and other similar organizations have been contacted to open dialogue in the event that the School needs a contingent location. It is expected that no programs will be delayed should an alternate facility be used, and the School will encumber no lease payments or otherwise incur any debt for the primary constructed facility until the primary facility is ready for school use. The Board at that time will negotiate a transition plan in the academic and financial best interests of the School. Purpose-built construction facilities are economically best served in the long term through a single development phase for the entire enrollment growth plan. It reduces additional costs of re-mobilization, general conditions, design, permitting, and potential rising costs of material and construction. Ideally, the School's first and only construction phase will include one hundred percent of the facility and related amenities for the maximum enrollment of 800 students.

**Q217. Describe the board's capacity and experience in facilities acquisition and management, including managing build-out and/or renovations, as applicable.**



The GSCA board membership includes two individual members that are deeply involved in facilities acquisition and management, specifically in the sectors of new construction development, build out and upfit/renovation. One member in particular, Mr. Voller is a licensed commercial realtor and has been working in commercial and residential development for the past 20 years, including local, regional, national and International projects. Mr. Voller has also served four terms as the Mayor of Pittsboro where he has overseen commercial development in all areas, including schools. Two other individual board members serve on the Realtors Association and Home Builders Association(HBA) and are intimately connected to this region in new construction, long-range development planning and facility acquisition. Specifically, Mrs. Fraccaro serves as the CEO of the HBA and has been working explicitly on the Chatham Park Development for the past 8 years. Although not in the real estate aspect of commercial development, two other board members, Mr. Garay and Mr. Edson, are on the ground in construction as an HVAC expert and master electrician, respectively. Collectively, this board holds decades of experience in facilities, development, construction and facility management.

### 11.7. Certify

Q218. I certify that this subsection is entirely original and has not been copied, pasted, or otherwise reproduced from any other application.

- Yes
- No

Q219. Explanation (optional):

## Section



Lisa Weaves

### Ratings

Exceeds  
the  
Standard

The response reflects a thorough understanding of key issues. It clearly aligns with the mission and goals of the school. The response includes specific and accurate information that shows thorough preparation.

### Comments :

The applicant understands the process and problems involved in opening a charter school, has contingency plans, and a realistic perspective on potential problems, both seen and unforeseen.



## 12. Financial Plan

### 12.1. Charter School Budget

All budgets should balance indicating strong budgetary skills. Any negative fund balances will, more than likely, generate additional questions by those evaluating the application. If the applicant is depending on other funding sources or working capital to balance the operating budget, please provide documentation such as signed statements from donors, foundations, bank documents, etc., on the commitment of these funds. If these figures are loans, the repayment needs to be explained in the narrative and found within the budget projections.

**Q220.If applicable, attach Appendix M: Revenue Assurances. Assurances are needed to confirm the commitment of any additional sources of revenue.**

#### Applicant Evidence :


Appendix M Granite....

Uploaded on **4/26/2022**  
by **Laura Howell**

**Q221.Attach Appendix N: Proposed Budget for Year 1 through Year 5 [Click here to access and download the Budget Template.](https://www.dpi.nc.gov/charter-application-budget-template-2021-22xlsx/download?attachment) (https://www.dpi.nc.gov/charter-application-budget-template-2021-22xlsx/download?attachment)**

Upload Required File Type: pdf, image, excel, word, text Max File Size: 30

Total Files Count: 5



Applicant Evidence :



Appendix N year 1-5 ...

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by **Laura Howell**

## 12.2. Budget Narrative

Please include additional information that explains the assumptions used in the 5-year budget.

Q222. [How was the student enrollment number projected?](#)



Enrollment of the school is based on a thoughtful matriculation pattern of between one to three classes per grade level K-6. Typical school entry points are in Kindergarten and 6th grade, which are purposefully larger than other entry points into the school. This matches the natural transition grades of the local public and private school options while at the same time allowing the school's culture and expectations for learning to be introduced mostly at those ordinary entry grades, allowing the school to grow its learning environment concurrently with its enrollment. The school will add grade levels and welcome new kindergarten classes in successive years until the school is at its full capacity, currently projected at approximately 800 students in Year Nine of its operation.

#### Budget Assumptions and additional information-

The GSCA Planning Committee has developed its 5 budget projections in close alignment with the school's mission of developing leaders ready to make impacts within their communities and ensure the maximum investment possible in its instructional and student support programs. Given the local school district's projections of enrollment growth in the near future that it will not be able to adequately address within the existing capacity of its current schools, GSCA is confident that the school will be well-positioned to meet the enrollment targets upon which these projections are based. Developing the initial planning budget and projections began with an analysis of currently available data and estimated revenues, including the NCDPI-supplied per-pupil revenue estimates. Year 1 enrollment was projected at 308 students across grades K-6. Student demographics and eligibility for special services were estimated to be similar to those of the local school district, with approximately 12% of students eligible for special education services, approximately 5% identified as Gifted/Talented, and approximately 25-50% of whom would be eligible for Free or Reduced-price Lunch services (FRL), based on the percentage of students in poverty (i.e., those who receive TANF, Medicaid, SNAP, or who have been identified as a foster child, homeless or migrant) for the local geographic area. Our resource allocations in the 5 budget projections reflect our commitment to funding a program with highly qualified staff and mission-based professional development offerings that contribute to high academic achievement. A career-broadening experience does not preclude our students from learning all expected grade-level content and skills, and our budget projections reflect our commitment to funding a complete program. Providing a full continuum of support and resources for our students lies at the core of our budget alignment work. Experience and expertise are two reasons why the board will work closely with the school leadership to ensure that our teachers have the requisite skills and knowledge to plan and deliver lessons and gather and analyze rich assessment data that necessitates ongoing training provided by experienced trainers. These expenses have been accounted for under Professional Development in the planning budget at a minimum of \$1500 per teacher. The board will also consider a budget allocation for board training if



needed. GSCA recognizes the significant financial impact that facilities can have on a charter school's ability to fulfill its educational mission. The board will develop and support two primary subcommittees to ensure a strong foundation for our success, a Finance Committee and a Facilities Committee, each of which will lead in the development and implementation of sound plans for these areas, including identifying the most cost-effective sources of long-term financing for any facilities solutions. The board will help develop and implement GSCA's strategic plans and is exploring future partnership opportunities with nationally recognized nonprofit CDFIs, such as Building Hope. The Finance Committee recognizes the importance of data-driven processes to ensure that all budgetary assumptions are (i) conservative, (ii) realistic, and (iii) updated regularly to reflect any changes in the school's financial context. To achieve this, members of the Finance Committee will work closely with school leadership to analyze financial and performance metrics regularly, with interim progress updates presented to the full Board at regular open Board meetings. A primary goal of this work will be to ensure close alignment between the allocation of the school's resources (e.g., financial, personnel, etc.) and critical strategic goals, not the least of which is ensuring that all GSCA stakeholders are prepared for the high achievement of state-mandated assessments. Through the development of this application, the GSCA finance committee has cultivated a deep understanding of the distinct elements of a successful charter school financial plan. The assumptions used herein are based on analysis of data from multiple sources, including those made available by NCDPI; the North Carolina Association of Public Charter Schools, analysis of publicly available audited financial statements of currently operating NC charter schools, and other similar resources associated with operating an NC public charter school. In addition, budget projections in the plan do not include variable funding sources, such as grants and fundraising. However, we will pursue these and see these as potentially significant sources of funding. The committee has formulated detailed financial projections based on conservative estimates of likely growth and anticipated sources of revenue. To develop a broad background on the finances of NC charter schools, the team analyzed historical per-pupil revenues using data drawn from the NC School Report Card reports and per-pupil revenue projections developed by NCDPI for FY22. The development team also consulted in detail with Finance staff from NCDPI to ensure that our work was in line with their most recent guidance. The planning budget was also developed with careful attention to those educational resources that would best support our mission and vision, with special attention given to hiring talented instructional staff and supporting them in their professional growth. On the 5-year budget, the school has projected flat revenue for the entirety of the projections. This is to demonstrate that the school's budget is sustainable during periods where expenses may increase ahead of revenue increases. When combined with the exclusion of variable revenue sources as described above, this exercise demonstrates a conservative overall fiscal



approach that merits a high likelihood that the school will meet or exceed its net position estimates.

Other Income Assumptions:

The school intends to either deploy or contract with an outside food service vendor who is pre-approved to process Free and Reduced Lunch applications and services within the National School Lunch Program guidelines. GSCA anticipates that the costs associated with this program will be cost-neutral to the school. School staff is sufficient in number to assist and otherwise facilitate the breakfast and lunch service if necessary and is assumed to be all-inclusive and cost neutral, thereby offsetting both revenue and expense sides of the school budget. Loans will be utilized to pay for those items that must be purchased before the school opens or at the beginning of the school year to assist with cash flow needs. The Committee and its affiliates maintain an extraordinarily strong reputation in the finance market and have established lines of credit for the school at sub-market rates to facilitate a smooth opening to ensure that operating cash is not an issue, and the facility is equipped to deliver the school program on opening day.

Expense Assumptions:

Teacher salaries are budgeted at a median starting annual rate of approximately \$47,650 based on Chatham County advertised supplement rates. Any cash surplus at the end of the year will be applied first toward salary increases for school staff. Fringe Benefits are estimated at the current advertised rates. In addition, the School has budgeted monthly payments in Years One-Five for textbooks, other direct educational expenses, and payments on Furniture, Fixtures, Equipment, and Technology that the school will need to deliver its education program in the debt service line of the budget. This equates to an overall capacity to carry over \$1.25 million in an annualized lease or similar type of financing arrangement at current market rates, which equates to over \$2,000 per student for educational materials and related technology to support the program. Beginning Rent is budgeted at approximately \$1,500 per student in Year 1 to ensure a proper balance of facility costs to the overall budget and, at the same time, deliver a top-quality facility on opening day. The Board will negotiate the facility terms/lease on a per-student basis to protect the financial integrity of the School as it relates to student enrollment. The cost for the required independent annual audit is included as an expense beginning in Year Two, and it contemplates payment for the first full year of the school's operation. The cost for payroll and accounting is included in the Financial Accounting line item. Transportation gross expense has been budgeted at a proposed current contracted rate for the school for an estimated 25-40% of the student population in Years One-Five. This will allow the school to contract for services until the school population is fully known based on actual registrations; then it will possibly transition to an in-house program at an overall lower cost



relative to the increasing number of students that will be transported as the school continues to grow. Operating costs of the facility have been developed based on actuals from the other Greater RDU charter schools in operation. As stated in the narratives in the Education plan, the Board and its affiliates will be responsible for securing professional development for the staff for initial and ongoing development in the careers initiative, core subjects, and all areas identified in the PD plan. Variable costs are based on a per-student basis and increase accordingly as student enrollment increases. The FFETC loan, most often contemplated as a portion of the overall facility bond financing, is a critical aspect of the school's financial model and a cornerstone of current schools' financial and academic success. Our team has negotiated financing that allows schools to open with a full complement of furniture, fixtures, technology, equipment, and curriculum so that the school possesses everything it needs to students to be successful on opening day, while at the same time amortizing the cost over several school years to bring it in line with a traditional depreciation timeline. To support the beginning of school even further, the repayment schedule can begin with an interest-only period; then it will increase over five years. Employee benefits are based on the larger professional public-school market and are adjusted for prevailing local market conditions. The benefits currently offered by other local charter schools have been considered within the school's budget constraints and parameters. Additional budgeted benefits and will be offered include health insurance, retirement, FICA, SS unemployment taxes, and workers' compensation. The Board will strive to remain commensurate with the local school district and charter schools while protecting the financial integrity of the School. The board has budgeted for paying for the employer's portion of the employee's health coverage, which will be made available at the point of hire subject to the health insurance policy's waiting period and other provisions. However, dependent coverage will be offered and paid for by the employee through payroll deduction. The team has a longstanding relationship with Truist for its human resources, employee benefits, retirement, and other similar needs. The combined buying power offered by Truist will allow the school to obtain a benefit coverage plan comparable to that offered by large companies. Insurance expenses are estimated based on actual schools and adjusted for prevailing local rates.

#### Staffing and related costs:

The number of instructional staff complies with the class size norms established in North Carolina. Included and inherent in some curriculum adoption costs are professional development offerings that support the school's curriculum plan. Salaries are forecasted using guidance from published pay scales of an average 7th-year teacher and other corresponding locations for the other school positions on the Chatham County schools current salary scale. As described below, some human resources functions and payroll administration may be outsourced to a provider. The cost for these



services is included in the overall budget.

Other Operation-Related Expense Assumptions:

Instructional material costs are based on consultations with various vendors, analysis of other schools, and accessibility of free materials through the state. The budget supports the infrastructure to implement the school's vision. The Board will negotiate benefits and other operational services.

The spending priorities of the School are as follows:

1. Personnel expenses
2. Instructional Resources
3. Facilities Payments
4. FFETC Payments and other Debt Service
5. All other operating expenses

**Q223. Provide an explanation as to why you believe there is a demand for the school that will meet this enrollment projection.**



The Granite State Charter Academy Board is confident that the School will meet its enrollment projections. Enrollment in this county and surrounding areas is currently increasing and is projected to continue to increase dramatically over the next several years. It is expected that new housing starts and commercial development will expedite huge increases in residential growth and the need for new schools in Chatham County as quickly as possible. According to Metrostudy, annual starts for Chatham Co. is 666, Orange Co at 389, and Durham Co. with 1,915 so a total of 2,970. These new starts are approved and in progress and include single-family, townhomes, duplexes and condos. Three of the Founding members are deeply invested in the community, and work with the Home Builders Association, Construction and Development, and serve on other nonprofit organizations supporting Chatham and adjacent communities. Each County the School expects to serve has at least one board member who resides in that County who will attest to the need for more schools of choice and in particular, an innovative model that provides students with access and exposure to electives programs that offer real-life applications of the content they are learning that may ultimately become a college or career pathway for that child. The educational model is designed to allow students to develop their own talents, and make connections to the NCSCOS in ways that may encourage their lifelong learning and career pathways. As Board members began to seek feedback and input from local community leaders and commerce in 2020, the support for this model was overwhelming. Every builder, realtor and community leader immediately saw the need for this School and its ability to meet increasing demand for seats and increasing demand for innovation. Most importantly, local demographics projections showed a 32% increase in households from 2010-2020 and projected an additional 14% growth through 2025 and another 11% increase in households from 2025-2030. This School will meet the demands of an exponentially growing residential community and meet the needs of a critical component that is absent from almost all local schools, and certainly one that is not addressed in a K8 program. This model supports differentiated instruction and endeavors to serve a diverse student population and provide an innovative model that teaches career and trades skills for all students in a way that is meaningful, and most importantly, engaging which will lead to increased academic achievement for all students.

**Q224. Provide the break-even point of student enrollment.**

The breakeven point of year one enrollment without engaging more progressive measures to reduce anticipated expenditures is approximately 215, or 70% of expected enrollment. Further information related to how this number has been derived is explained in question 225.

**Q225. Discuss the school's contingency plan to meet financial needs if anticipated**



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revenues are not received or are lower than estimated.



The Board has pre-identified approximately two hundred and fifty thousand dollars in salary and benefits for non-core instructional and related staff (or 20% of projected staffing costs), and an additional two hundred and fifty thousand dollars in non-staffing related expenses (or 17% of projected non-staff related school expenses) that can be immediately reduced should enrollment not meet expectations, for a total of reduction to 82% of the original projected budget, or 253 student equivalent revenue. This enrollment would further reduce the core instructional teacher requirement by two, reducing the actual revenue needed to break even by an additional one hundred twenty thousand dollars, for an overall composite reduction to 77% of anticipated projected revenue, or the equivalent of approximately 237 students needed to break even. Additionally, the spacing requirements would be reduced for the lower enrollment, allowing the program to update the facility agreement to reflect this, resulting in an overall reduction of leasing, FFETC debt, and transportation costs by 30%. The composite of these sequential and cascading measures in response to lower-than-expected enrollment will reduce Year One expenses by an additional one hundred and eighty thousand dollars, or 215 students total, for an overall reduction to 70% of anticipated target enrollment Year One. These simple yet fundamentally effective strategies will not diminish the actual core educational program yet can be applied for any school year where enrollment is tracking lower than anticipated. Should these proactive measures not fully ameliorate a deteriorating revenue situation, the Board and school leadership team through its established budget review process will identify potential expenses that can be reduced and act in the combined best interest of students and the financial longevity of the school. Should the revenue reduction result from lower-than-expected enrollment, the budget review will also include reconciling current staffing needs. Appropriate reductions in force (RIF) will occur within the first six weeks of school. Since per-pupil revenues have remained flat or increased on average over the past several years, lower than anticipated revenues would be almost exclusively a function of lower-than-expected enrollment. As such, the best use of the board's time and expertise would be to anticipate any and all reduced revenue from expected sources, and develop response plans that could be deployed in a timely fashion and without a corresponding risk to the integrity of the program itself. To that end, the development of the budget as it relates to corresponding offers of financing when combined with other categories of the budget that contemplate the acquisition of supplies, curriculum, equipment, and technology, include a total of \$300k+ in Year One, and more in future years, for any and all FFETC (Furniture, Fixtures, Equipment, Technology, and Curriculum) and instructional materials needed to operate the school, spread across various expense GLs to simulate the probability that the school will combine leases and outright purchases of furniture, IT, textbooks, and other materials for instructional use (such as copy paper). Amortized loan rates allow for the school to develop a Year One implementation of approximately \$1.25MM in purchasing



power and service this debt without compromising other aspects of the budget. Customarily, this is how Year One successful charter schools open, where the various instructional and related items are available for students and staff on day one and amortized over a 3–5-year span. By adjusting the total amount of purchasing power and/or the term of the loan, the board can leverage their acquisition of all needed resources to provide the program as designed in this application, yet at the same time guard against annual cash flow shortages due to lower revenues.

**Q226. Does the budget rely on sources of funds other than state, county, and federal (e.g., loans, donations, etc.)? If so, please provide the source and amount. Also, describe any committed contributions and in-kind donations of goods or services to be received by the charter school that will assist in evaluating the financial viability of the school. Clearly indicate between those grants or in-kind donations which have already been firmly committed and those the board is planning to pursue. Be sure that the appropriate assurances documentation is provided in the appendices.**

The school's budget is built to solely sustain the accumulated per-pupil funding from federal, state, and local sources. Any fundraising, grants, or donation that the school receives will enrich the existing program and assist the school in achieving its programmatic and financial goals sooner than forecasted. The five-year budget proforma is purposefully built to provide an accurate yet fundamentally conservative financial basis, ensuring that the school is sustainable over the long term. Three essential aspects of the budget which protect the school against unforeseen negative revenue scenarios are:

1. The positive fund balance projection is built into the 5-year proforma.
2. All source revenue projections are flat (no annual percentage increase) in the first five years of the school, and the budget does not rely on any outside sources of funds such as grants, fundraising, or donations to operate.
3. While the school expects to have traditional sources of net revenue, including eligible grant acquisitions, typical fundraising, before and aftercare, and as described in the foodservice component of the application, a net cost-neutral NSLP program, these items have been intentionally omitted from the application budget instrument in direct response to this question, and to unequivocally demonstrate that the school can operate in an economically conservative environment, and without any additional sources of net revenue.

**Q227. Provide the student to teacher ratio that the budget is built on.**



The budget is built on an average ratio of 22 students to 1 classroom teacher.

**Q228. Describe the board's individual and collective qualifications and capacity for implementing the financial plan successfully.**

Four members of the seven founding board members have explicit budget management and financial planning expertise. Each of these four board members owns successful businesses and/or serves as the CEO of large Associations in which financial planning and management are critical. In addition to having an explicit understanding of budgets and financial controls, all 4 of these Board members also have experience in serving on other nonprofit boards that require a distinct set of skills needed for budget oversight and implementation of gross revenues in the millions of dollars. The board understands its role in formulating and adopting an annual balanced budget and managing ongoing budget vs actual expenses throughout the School year. Furthermore, they understand their responsibility in discharging public funds and that the yearly audit will hold them accountable for those funds. One other board member has been actively involved in school start-ups and operations as a Founding board member of a different, highly successful NC charter school and by participating in School Improvement and Advisory committees by which School goals are identified and reasonable strategies and activities are presented. Ultimately, resources are needed to meet those goals, and this team is well-equipped to help determine mission-critical priorities and effective resource management. Therefore, this Board is uniquely qualified and prepared to implement the financial plan within this application.

**Q229. Describe how one or more high needs students with disabilities might affect the budget and your plan to meet student needs that might be more than anticipated.**



As a public school, the board anticipates that the program will include a corresponding share of students with disabilities. Without the ability in a traditional setting to contemplate additional, already established specialized settings for students with high needs as established by their IEP, the school must demonstrate a combination of flexibility and creativity when working with a family to develop an IEP that meets the unique needs of the child within the school's ability to reasonably provide or in some cases, develop. Given that this school will already have a number of supports in place: EC staff and instructional support staff, supplemental services, transportation, and other intrinsic program features, this school will inherently have a higher level of service capacity than other charter schools in the state, and subsequently will be able to provide a higher level of EC service as a standard rather than as an exception. That being said, the school will not necessarily be able to immediately accommodate any EC students at the upper echelon of service, as would be the case for all traditional public school programs nationally. While working directly with the IEP team, the school will immediately investigate and apply for additional revenue sources that may assist the school in deploying additional resources as depicted in the IEP. By way of example, if a student with a diagnosed condition that the IEP team through its review of the information, were to be assigned a 1:1 Behavior Resource teacher, then the school would advertise and hire such a qualified person, adjust the budget accordingly, and subsequently apply for PRC 029 funding.

**Q230.If there is a plan to outsource any or all financial management areas such as payroll, benefits, audits, fundraising, accounting, etc., provide a statement on how the vendors will be selected and how the board will oversee their activities to ensure fidelity and compliance.**

The board does not intend to outsource any financial oversight/management matters related to the school since this is a critical component of its broad responsibility to its stakeholders. Transactional support, however, is contemplated in question 231 below. Audit services as a necessary function of the statutorily prescribed process will be contracted as described in other areas of this application. Information related to vendor acquisition, oversight, the Request for Proposal process, and other financial management policies and procedures may be found in other areas of this application. As previously described, the school will follow a non-profit vendor and procurement policy in procuring supplies, equipment, construction, training, and other services and agreements, particularly those of a high dollar value and those that may span multiple years.

**Q231.Does the school intend to contract for services such as student accounting and financial services, exceptional children instructional support, custodial, etc? Describe**



### the criteria and procedures for the selection of contractors and large purchases.

The board intends to initially contract with a North Carolina vendor for financial and related services support, including:

- preparation of financial reports each month,
- preparation of vendor payments,
- reconciliation of bank accounts,
- payroll support as needed (including payroll deductions and withholdings), preparation and submission of state and federal payroll taxes and associated reports,
- preparation and transmission of state and federal reporting in accordance with the Uniform Education Reporting System,
- provide financial, budget, and other reports and data.
- registrar services if needed

An independent auditor will be selected to plan and conduct an annual audit, confer with staff and board at reasonable intervals, and provide consulting on accounting and financial matters. The board may elect to contract with other independent entities or vendors should the school staff require additional assistance in areas necessary to operate the school or otherwise not be able to provide a specific service through in-house staff. Examples of this would include contracting with a licensed vendor for speech and occupational therapy services, should the school not be able to hire qualified candidates, or should the EC service requirement be such that contracting with an outside vendor at an hourly rate would be in the best financial interests of the school versus hiring employees directly. In instances where the board will contract for services with an outside vendor, there will be strict criteria and a robust selection process to ensure that the contracted services are performed appropriately and school funds are expended in the best interest of students. Minimally, potential vendors will be licensed in their respective fields, insured or otherwise bonded, and undergo background checks which mirror the school and the local LEA. The Board or a school leadership designee will research available vendors and independently obtain data (such as a client list for reference checks) to gauge the quality of potential vendors. The Board will vote to contract with specific vendors based on these criteria, and such contracts will be subject to periodic review for efficacy. When appropriate, the board will enact a full Request for Proposal (RFP) process and adjust it to fit the individual need as articulated by the board and allowable under state law.

### Q232. Explain how the budget aligns with the school's mission, curricular offerings, transportation plans, and facility needs.



The budget as presented, including salaries for administrators, teachers and other school staff reflected in the charter application, are averages that were calculated directly from published financial audits from similarly sized charter schools currently operating in North Carolina counties with similar per-pupil county funding amounts, since 2016. The intelligent design of the budget and developed goals of achieving a sizeable positive fund balance were thoughtfully constructed to account for unforeseen or unknowable variables that naturally accompany a new charter school start-up and guarantee that the school has the fiscal capacity and agility to address those needs. Primary spending priorities are on expenses directly related to student instruction and a conducive learning environment. This would include salaries and benefits of instructional and support staff, instructional materials and supplies, contracted services for educational support, insurance, facility costs, and related costs necessary to provide students with a safe and healthy learning environment. Secondary spending priorities are for those non-essential but beneficial expenses to improve student learning. These costs are usually incurred as the School reaches its targeted student capacity. This would include additional enrichment, auxiliary supplemental instructional materials, intramural uniforms, etc. In addition, the school will facilitate or otherwise contract with an outside food service vendor who is pre-approved to process Free and Reduced Lunch applications and serve within the guidelines of the National School Lunch Program. As otherwise indicated, it is anticipated that the costs associated with this program will be cost-neutral. School staff is sufficient in number to implement the program with full fidelity from day one of Year One. The school will allocate funds as necessary to comply with state law regarding charter school students and transportation to and from school and enact the plan as written. The acquisition and operation of additional school buses to transport students to and from school within a reasonable radius of the school will be the first non-personnel use of surplus funds beyond the anticipated fund balance once salary and wage matters, in comparison to the local school district, have been reconciled as commensurate.

**Q233. What percentage of expenditures will be the school's goal for a general fund balance? Describe how the school will develop the fund balance.**



The Board has set an anticipated goal of approximately 2-6% percent of annual expenditures to develop the School's unrestricted fund balance. After Year One, at no point will the fund balance decrease below 2% of the school's annual approved budget, or one full month's worth of operating expenses, whichever is the greater amount. Cash flow will be monitored to ensure that the school's cash balance remains at or above 2% until such time within the first year of operation that the board can accurately predict all financial obligations will be met through the end of the fiscal year. Developing and maintaining a healthy fund balance will be a primary component of the school's budgeting process. The systematic budgetary review process conducted by the Board and school leadership consists of four main budgeting periods: Early Bird (June of the preceding fiscal year), Post ADM (September), Spring(February), and Final (July of the following fiscal year). This schedule of compulsory budget review will ensure a balance between revenue and expenses and empower the Board and school leadership with the agility needed to adjust the budget quickly. When combined with a monthly review of the financial Budget versus Actual statements prepared by the school's financial accountant, local comptroller, and school principal, this practice will allow the school to thoughtfully and methodically develop an appropriate unrestricted fund balance.

**Q234. Provide a description of proposed financing structure. Include financing of facilities, other asset financing, and leases.**



Based upon current discussions with national experts in charter school facility and financing, the estimate that the per square foot lease cost of the completed facility will be approximately \$20 per square foot, which will result in an annual lease estimate in the four hundred seventy-five thousand dollar plus range and escalating after Year One. The final rate will ultimately vary to the actual size of the facility and whether the school leases an existing facility (\$20+/-square foot per year) or builds a new facility (\$200+/-square foot total cost). These costs are consistent with charter school deals that have recently been executed in the region. These costs are consistent with our information on current land costs and construction costs. From our research and discussions with commercial real estate brokers, general contractors, and real estate developers, we estimate the total cost of a new facility would be between \$15 million and \$20 million, depending on the location and size of the facility. This would translate into posted estimated annual lease costs assuming a typical lease CAP rate of 7% to 9%. The Board has already received a funding commitment from a nationally recognized and reputable investor specializing in commercial real estate to construct the facility to the school as described above. A separate offer of a lease is also depicted above. Additionally, the Board has already received a funding commitment for all furniture, fixtures, and equipment necessary to open and operate the school from an internationally reputable company that specializes in equipping new schools, specifically charter schools. The funding commitment is for approximately \$1,250,000 and is evenly split into monthly payments beginning September after the school opens and spans over 60 months at an 8% annual interest rate. School bus financing, if needed, will be facilitated by the Carolina Thomas Bus company via their Daimler-Chrysler/Mercedes financing arm. Current finance rates are 4.6% for a 7-year term on 72 passenger-rated school buses. Payments are reflected in the budget as a part of the transportation expense and would be substituted for contracted service. As the school may discharge funds in support of the school opening, the Board has opened negotiations with Charter School Capital, which has offered to loan operating capital if needed. This continues to be an ongoing discussion, and there is a proactive debt service payment placed in the budget if the board chooses to move in this direction.

**Q235. Will the school have assets from other sources (e.g. building, furniture, chairs, computers, etc.)? If yes, please provide a list. Note which are secured and which are anticipated, and include evidence of commitment for any assets on which the school's core operation depends.**



Not Applicable. The school will not rely on assets from any external sources. As described in the budget and financing narrative, the Board has arranged for a long-term loan for all necessary furniture, fixtures, equipment, technology and curriculum (FFETC) to open and operate the school. Additional asset needs are provided for in the annual operating budget and increase as the school grows in enrollment.

### 12.3. Financial Compliance

Q236. How will the school ensure adequate internal controls, including segregation of duties, safeguarding of assets, accurate and adequate record keeping?



The Board will review and approve a preliminary annual budget before the beginning of the fiscal year, the guiding master document that dictates the limits and boundaries of all revenue and expenses for the school. In conjunction with the board, the Principal will prepare a school site-specific budget based on a combination of historical economic activity plus an intelligent projection for that upcoming school year that will include anticipated revenues and expenditures based on student enrollment. The board will also adopt a policy whereby the principal must seek prior board approval for expenditures over a pre-approved amount. The Board will oversee the Principal and remain responsible for all financial matters delegated to the principal. The Principal will manage the day-to-day operations and site-based finances, including expenditures and receivables. Board Treasurer, Principal, and whomever else the Board appoints represents the school's Finance Committee. Each individual brings experience and expertise in charter school financial management.

The Finance Committee is commissioned by and responsible to the board for:

- Developing the upcoming fiscal year budget.
- Presenting budget recommendations to the board.
- Monitoring implementation of the approved budget regularly with recommended proposed budget revisions.
- Recommending to the Board appropriate policies for managing the charter school's assets.
- Developing and annually revising a three-year financial forecast and developing long-range financial plans based on the forecast in collaboration with the charter school's principal.
- Reviewing all grant proposals and, when necessary, recommending action by the board.
- Reviewing all non-budgeted expenditures and those over a set dollar amount to be determined by the board and recommend action to the board.
- Annually submitting financial objectives as part of the planning and budgeting process.
- Annually evaluate its work as a committee and the objectives it has committed itself to and report on the same to the board.
- Providing monthly financial reports to the board at regular meetings with recommendations for action.

At each board meeting, the monthly financial reports that detail the charter school's income, expenses, and any surplus or deficit will be presented in their native format from LINQ and in a condensed summative version. The reports also highlight any deviations from the budget, projected revenues, and any actions the charter school administrator takes to correct those deviations, as well as three critical components:

- Cash-flow projection worksheet: This covers a 12-month period and shows all anticipated financial



obligations and expected cash revenues based on the existing work plan and budget. This worksheet helps to reveal if there will be any periods when funds will be insufficient to cover expenses. The worksheet should be updated each month to reflect any changes in cash projections.

- Balance sheet: This report shows the financial position of the charter school at a particular point in time. It summarizes the school's assets, liabilities (debts or payables) and reserves (equity or fund balance), which the board can use to assess the organization's financial stability and see whether its liabilities can be met.
- Income statement: Also known as a Profit and Loss statement or Budget vs Actual, this report presents an analysis of the net income or deficit of the charter school over a defined period of time. The board can use this report to assess the overall financial performance of the charter school by comparing actual income and expenditures with the budget. It can also be used to compare current income and expenditures with those of the previous year. Using this information, the board can advise the school to revise budgets or work plans or to take actions to reduce costs and/or seek additional revenue.

The school's Principal and the board or the board's Finance Committee receive the following information minimally on a quarterly basis:

- A report on the number of students currently enrolled compared with the number projected and compared with the number in the same period of the previous year
- A report on fundraising activities and results
- A list of critical items that might affect the financial viability of the charter school.

The Governing Board will establish financial management policies and procedures to safeguard further the public money entrusted to its care, including:

- retaining the services of a CPA for the annual independent financial audit and review, and
- approval of the audit report including audit findings and recommendations,

In the event a financial recovery plan is necessary, the board will monitor it and ensure such plan is appropriately maintained, review and monitor the financial statements described above, and develop internal controls and similar policies to monitor and protect school funds and the employees that process them.

The following financial management principles will guide a strong internal control policy:

1. Responsibility will be clearly established.
2. Adequate records will be maintained.
3. Assets will be insured and inventoried, and appropriate employees will be bonded.



Internal GAAP accounting procedures for account receivables and accounts payables are, as follows:

- All cash payments will be logged, coded by source, and deposited daily for receivables. Daily deposits will be reconciled to cash receipts logs.
- Payments will be made only to approved vendors and must be appropriately authorized.
- Accounts Payable packages are prepared at the school site and authorized by the principal before delivery to the Financial Accounting vendor.
- Invoices over the Principal's level of authority are submitted to the board's Treasurer or Finance Committee with appropriate supporting documentation to substantiate the nature, account classification, business purpose, and amount.
- All checks over a pre-approved threshold will require dual signatures as established by the board.
- Authorized signatures on checks are limited to the President of the Governing Board, the school principal or designee, as approved by the Governing Board.
- Bank statements will be reconciled on a monthly basis.

The School will utilize established procedures for cash receipts, cash disbursements and record keeping. Some of the financial controls include:

- Only one operating main bank account will be maintained by the school (others may be maintained by as practicable and approved by the board)
- All receivables will be deposited to the bank account daily, intact, whenever practical. At a minimum, no receivables will go more than two days before being deposited.
- Printed, pre-numbered receipts will be issued for all cash received whenever possible.
- All payments will be made by check (except for occasional minor petty cash items). Printed, pre-numbered checks will be used, and voided checks will be maintained to complete the number sequence.
- The principal, or his/her designate, will authorize all expenditures prior to any commitment being made regarding any school funds.
- A clear segregation of duties within the school leadership and office staff will be established so that no single employee or board member has the singular ability to receive and record revenues and approve or issue payment.
- No checks will be pre-signed, and no signatory will also have authorization to enter invoices in the accounting system for payment and/or approve new vendors.
- All invoices will be reviewed and initialed for approval before a check is issued.
- All school liabilities will be paid promptly.
- All school-related fundraising activities must be approved in advance by the principal.
- All funds associated with school-related activities will be administered through the school office.
- All outside groups with a relationship to the school (PTO, Boosters, etc.) will conduct activities in



such a way as to be clearly distinguished from school-sponsored programs/activities.

- State sales tax shall be collected and reported when applicable.
- School financial records, including files for receipts, invoices, bank statements, and canceled checks will be kept up-to-date and fully accessible at all times.
- The signing officers may only make transfers to/from the school bank account.
- Any interest from a school account will be reported as receipts of revenue and, as a result, become a part of school funds.
- Bank reconciliations will be completed monthly. A printed copy will be reviewed and initialed by school leadership, and a copy will be kept on file. A financial accountant will perform bank reconciliation and accompany the monthly financial statements.
- A Balance Sheet and Income Statement will be prepared monthly, a printed copy reviewed and initialed by the management company or school support team, and a copy kept on file.
- Financial reports for all student activity or similar groups (i.e., yearbook, student government, etc.) will be prepared on a quarterly basis as determined by activity and distributed to the principal for review.
- All school property over \$2500 and those collectively purchased items whose total is over \$2500 will be inventoried and capitalized to safeguard the controls over the assets acquired.
- Under no circumstances are school funds to be used for personal benefit or gain of administration or staff.

#### Purchase Order Processing – Financial Controls:

Day-to-day management of the school's finances will involve the principal with the assistance of the financial accountant and the Finance Committee when practical or policy dictates. The principal will be responsible for the following:

- Identifying needed services to maintain the instructional program and physical facility in top condition.
- Upon identifying a good or service, the principal will authorize a purchase order for procurement of a good or service within the established parameters of the principal's purchasing authority as granted by the Governing Board.
- Purchase requests in excess of the established principal's authority will be referred to the Finance Committee.
- Upon delivery and confirmation of ordered materials or the satisfactory completion of a service, the principal or his/her designee approves the packing slip, work order or shipping bill and returns these with any invoice to the financial accountant for payment in the form of an Accounts Payable package.
- The financial accountant enters that the receipt of goods or services has been properly



documented and places the invoice amount into the correct general ledger code (GL). All GLs (both revenue and expense) are subject to the same level of control and a thorough record of each is maintained so that the board, principal and management entities have full visibility on all internal fund revenues and expenses via the itemized detail component of the monthly financial report as well as the summary component.

- All purchase orders are subject to review and approval for budget alignment as well as cost.

The school will produce monthly financial statements, including a statement of revenues and expenditures and changes in fund balances, prepared in accordance with generally accepted accounting principles. These will be provided on the dates required by the charter school in any contractual agreement between the school and the NCDPI. In addition, the school will provide NCDPI annual audited financial reports each year. These reports will include a complete set of financial statements and notes thereto prepared in accordance with generally accepted accounting principles for inclusion into the board's annual financial statements, formatted by revenue sources and expenditures and detailed by function and object, on or before the date specified by NCDPI. The Governing Board will utilize audits in carrying out its responsibility to assure the school's financial resources are properly managed. The board understands the fiduciary responsibility it holds in using public funds to provide its students with a free and appropriate public education. The Board will comply with all of the requirements set forth by the laws, rules, and regulations at the Federal, State, and NCDPI. To further emphasize, the Board is fully aware of and will comply with the following: An annual audit of the charter school shall be conducted by an independent public accountant licensed to practice public accounting in the State of North Carolina. The charter schools independently audited financial statements shall be included in this report due to the following: NCDPI and LGC.

The School will adhere to the audit selection requirements per Statute and the Auditor General Requirements and ensure that the Audit Report is completed in a timely manner according to the dates agreed upon for audited and unaudited reports between NCDPI and the board in the Charter. The Governing Board will comply with all requirements for submitting the annual audited financial statements and prepare to cooperate fully with any additional information requested. Financial records, including personnel files, will be maintained and kept for those periods required by law. Most contracts, personnel records, and other sensitive financial records will be copied and stored offsite in electronic form. The school will utilize the standard state codification of accounts to codify all transactions pertaining to its operations for both internal and external reporting. Financial reporting will be subject to any directives issued by the LGC and NCDPI. The Governing Board will employ stringent and transparent financial reporting requirements as follows:



- All financial transactions and records are scanned to a secure document portal available to persons authorized by the board.
- The document portal is organized to permit the view of each check's history, including the purchase order and signed shipping invoice authorizing payment.
- A copy of the monthly bank reconciliation and financial reports (ledger detail, balance sheet, P&L) is maintained on the document portal. In addition, the bank register is updated weekly and posted to the portal. Restricted persons are also permitted online confirmation of account balances and activity to facilitate the monitoring of school funds 24 hours a day, seven days a week.
- Enrollment is monitored weekly by the school's principal or designee, and daily during ADM survey periods.
- The school will provide an annual financial report and program cost report information in state-required formats for inclusion in reporting to the NCDPI.
- The school will provide NCDPI reports showing balance sheets, income statements, bank reconciliations, and any other documents as agreed to and provided in the Charter.
- Budgets that are approved by board action will be published alongside approved board minutes on the school's website.
- Monthly financials that have been fully reviewed and reconciled by the Finance Committee will also be published on the school's website.
- Annual financial audits will be published on the school's website.
- Annually, the school will review the most current budget and prior year financial audit at a school-wide staff meeting and PTO meeting.

GSCA will flexibly monitor our financial progress on an ongoing basis in the same manner that we would monitor a student's academic progress. In addition, great care will be taken to ensure that our accounting practices remain in compliance with NCDPI's Financial Accounting Handbook, the NCDPI Funding Manual, and the NCDPI Annual Audit Guide as they continue to evolve throughout the term of the Charter. GSCA is also exploring contracting with an experienced NC third party for certain back-office services, which would involve a service provider assuming responsibility for preparing and delivering the required reports in the NCDPI-mandated formats to the school. School leadership would monitor this data to ensure its accuracy. In addition, school staff will closely monitor the requirements of NCDPI guidance regularly, such as implementing procedures to ensure that students who do not show up at school on the first day are properly coded into the correct NC pupil accounting system as 'NS' by the end of that first day and to reconfirm that all students are eligible for funding and attendance. The GSCA Board will also work closely with the contracted auditor to ensure that our internal controls and practices are in accordance with GAAP principles, are sufficient to prevent the emergence of problems, and are robust enough to identify potential issues long before they have the chance to become more serious.



**Q237. Provide any known or possible related party transactions (relationship, description of transaction, and estimated dollars involved).**

Not Applicable. There are no known or possible related party transactions the board is aware of at this time.

**Q238. Provide the name of the firm approved by the NC Local Government Commission (LGC) that will conduct the audit. Include the complete mailing address, telephone number, and fax number. If a firm has yet to be identified, please list the firms the board has investigated.**

- Rebekah Barr, CPA PC 5422 Boswellville Road Wilson, NC 27893 252 230-6294
- Jay E. S Sharpe, CPA 702 Oberlin Road, Suite 410 Raleigh, North Carolina 27605 919 832 6848

#### 12.4. Certify

**Q239. I certify that this subsection is entirely original and has not been copied, pasted, or otherwise reproduced from any other application.**

- Yes
- No

**Q240. Explanation (optional):**

## Section



Lisa Weaves

### Ratings

Exceeds  
the  
Standard

The response reflects a thorough understanding of key issues. It clearly aligns with the mission and goals of the school. The response includes specific and accurate information that shows thorough preparation.

### Comments :

This is a very comprehensive financial plan with contingencies. It is clear the applicant and its consultant understands the requirements and complexities involved with opening a charter school. It is not clear to this reviewer how the financial of outfitting a school with specific CTE needs is addressed in the fixtures budget, but without enough knowledge to question, will presume that other will be able to ask those specific questions.



## 13. Other Forms

Q241. Sign the attached Charter School Required Signature Certification document and upload it as a PDF or image file.

Upload Required File Type: pdf, image Max File Size: 30 Total Files Count: 1

### Resources


Charter School Requ...

### Applicant Evidence :


Granite State Charte...

Uploaded on **4/29/2022**  
by **Laura Howell**

## Section



Lisa Weaves

### Ratings

Meets the  
Standard

The response meets the criteria in some aspects, but lacks sufficient detail and/or requires additional information in one or more areas.



## 14. Third-party Application Preparation

Q242. Was this application prepared with the assistance of a third-party person or group?

- Yes  
 No

Q243. Give the name of the third-party person or group:

Alliance Education Services, Inc.

Q244. Fees provided to the third-party person or group:

No fees were provided to Alliance Education Services for their work.

### Section



Lisa Weaves

Ratings

Meets the  
Standard

The response meets the criteria in some aspects, but lacks sufficient detail and/or requires additional information in one or more areas.



## 15. Application Fee

Pursuant to G.S. 115C-218.1(c) the charter school applicant must submit a \$1000 application fee to the Office of Charter Schools. The applicant must submit their application fee by **April 29, 2022, at 5:00 pm EDT** for Fast Track and Accelerated applications, and **April 29, 2022, at 5:00 pm EDT** for traditional timeline applications. Payments will be accepted in the form of a certified check. Cash is not accepted.

**Q245.\*Application Note: The applicant must mail the certified check along with the Application Fee Payment Form (see the resources for this question) before or on the due date of April 29, 2022, at 5:00 pm EDT for Fast Track and Accelerated applicants, and April 29, 2022, at 5:00 pm EDT for traditional timeline applicants. Failure to submit payment by the stipulated timeline to the Office of Charter Schools will deem the application incomplete. Payments should be made payable to the North Carolina Department of Public Instruction: North Carolina Department of Public Instruction Office of Charter Schools 6307 Mail Service Center Raleigh, NC 27699-6307**

I understand

### Resources


2022 Payment Form....

## Section



Lisa Weaves

Ratings

Meets the  
Standard

The response meets the criteria in some aspects, but lacks sufficient detail and/or requires additional information in one or more areas.



## 16. Signature page

Q246. Fill out the attached resource and get it signed and notarized. Then upload as a PDF or image file.

Upload Required File Type: pdf, image Max File Size: 30 Total Files Count: 1

### Resources



### Applicant Evidence :



Uploaded on **4/29/2022**  
by **Laura Howell**

Q247. Please digitally sign your application here  
Signature

Laura Howell



## Section



Lisa Weaves

### Ratings

**Meets the  
Standard**

The response meets the criteria in some aspects, but lacks sufficient detail and/or requires additional information in one or more areas.

### Final Status

Reject  Approve

### Approver Comments

<b>Anticipated Racial/Ethnic Demographics (%)</b>	<b>% of Economically Disadvantaged Students</b>	<b>% of Students with Disabilities</b>	<b>% of English Language Learners</b>
<b>W-50% H-31% B/AA-11% MultiRace-6%</b>	<b>50</b>	<b>12</b>	<b>11</b>

<b>Academic School Year</b>		<b>Grade Levels</b>	<b>Total Projected Student Enrollment</b>
24-25	K-6		308
25-26	K-7		418
26-27	K-8		538
27-28	K-8		610
28-29	K-8		682

**Board Member Name**

**Board Title**

Holly Fracaro

Chair

Steve Griffin

Treasurer

Hon. Randy Voller

Member

Sam Edson

Member

Carlo Garay

Member

Cindy Gittens

Member

Laura Howell

Secretary

**County of Residence**

**Current Occupation**

Orange	President HBA
Durham	Owner, Insurance People of NC
Chatham	Developer
Durham	Electrician
Orange	Owner, Operator C and J Heating and A
Wake	Contracted Social Worker
Orange	Testing and Accountability Coordinator

**Past or Present Professional Licenses Held**

MA Psych

Licensed Insurances Broker

Licensed NC real estate broker, all six certifications for appraisal

Licensed Electrician

Licensed Electrician

Social Worker and Counselor MSW, LCSW

K-6, HS Sciences, CTE, Testing and Accountability

**Any disciplinary action taken against any of these professional licenses?**

NO

NO

NO

NO

NO

NO

NO

<b><u>Area of Proposed Coverage</u></b>	<b><u>Proposed Amount of Coverage</u></b>
Comprehensive General Liability	\$1,000,000.00/occurrence
Officers and Directors/Errors and Omissions	\$1,000,000.00/occurrence
Property Insurance	
Automobile Liability	\$1,000,000.00/occurrence
Crime Coverage - Minimum/Maximum Amount	\$250,000.00   \$250,000.00
Worker's Compensation	\$500,000.00
Other Coverage	\$1,000,000
Total Cost	

**Cost (Quote)**

4937  
2850  
17500  
385  
332  
7156  
2387  
35678

<b><u>Position</u></b>	<b><u>Year 0</u></b>	<b><u>Year 1</u></b>
Principal/School Leader	1	1
Assistant Principal		
Core Classroom Teachers		14
Specialized Classroom Teachers (e.g. special education, ELL, foreign language, etc.)		3
Student Support Positions (e.g. social workers, psychologists, etc.)		1
Specialized School Staff		2
Teaching Aides or Assistants		
School Operations Support Staff	1	2

Year 2

Year 3

Year 4

Year 5

1	1	1	1	1
		1	1	2
19		25	28	31
	5	5	7	8
	2	2	3	4
	4	4	4	5
	2	2	4	4
	2	2	2	2

**GSCA**  
**Teacher Staff Monthly PD Sessions**

June/July	Front Office/Admin/EC/Lead Teacher Summer Institutes
Pre-Planning Days Week 1	<p><b>Monday:</b>          Creating GSCA School Culture:          Mission/Vision          Safety/Crisis Plan, Handbooks,          Discipline Matrix/Expectations          NCEES/Evaluations and BTSP</p> <p><b>Tuesday:</b>          mClass, iReady, MTSS, flex groups          Config Boards, Lesson planning and          IEP, 504, EP,ELP in lesson plans</p> <p><b>Wednesday and Thursday:</b>          Reading and Writing Workshop          Materials, Lessons, Modeling, Assessments</p> <p><b>Friday:</b>          Materials distribution and classroom          assignments</p>
Pre-Planning Days Week 2	<p><b>Monday:</b>          Reveal Math and Construction in Math          Classroom set up</p> <p><b>Tuesday:</b>          Carolina Biological and PearsonMyView SS          (Gen Ed Staff)          Materials and Content for elective specials;          Financial Literacy, SimCity, Legos in the          Classroom, Coding/Programming          Classroom set up</p> <p><b>Wednesday:</b>          Grade level and subject area team planning</p> <p><b>Thursday:</b>          Distribution of Schedules, Rosters and first          week of school packets and expectations</p>

	<b>Friday:</b> Classroom set up and building walks
August	The School to Home Partnership
September	Post Assessments Data-driven Instruction
October	Building Inclusiveness, Diversity and Differentiation in the classroom
November	Literacy Workshop
January	It's a New Year and a Fresh Start; Restarting in January (Review and Reset Expectations)
February	Celebrations: Projects, Builds, Competitions
March	March Madness with Math
April	Using Data to support learning and prepare for EOY assessments
May	Electives integrated in the classroom

Granite State Charter Academy  
Appendix A  
Evidence of Community/Parent Support



BUILD WITH PASSION. BUILD BOLD.

---

July 6, 2021

Dear Charter School Advisory Board and State Board of Education,

On behalf of **BOLD Construction**, a Chatham County business, please accept this letter of support for the Granite State Charter Academy application.

Educational options are the number one priority for families choosing to relocate for personal or professional reasons. A high quality charter school with an innovative K-8 program will serve as an attractor and an anchor as this specific region continues to grow and demand for seats in Schools continues to grow with it. In fact, this charter school can be built more efficiently, more quickly and without using local/city/county tax dollars as charter schools' facilities are self-financed and funded.

I/We support this charter application for a K-8 school to open in Chatham County. There are few schools of choice for parents in this area, and although the local schools are generally known to be higher performing schools, there are no options for parents who desire an innovative program for their children. The best schools in this county and surrounding area also limit enrollment based on residential zoning practices that inadvertently result in inequality and a lack of diversity. Charter Schools are open to all NC residents regardless of address or any other qualifying factors. Parents deserve the right to choose what is best for their children.

Please support our support of this critical need to increase and improve parental options for their children which will help our businesses and associations grow and serve the great state of North Carolina.

Sincerely,

A handwritten signature in black ink that appears to read "J Dell".

Jason Dell  
President & Integrator

# CHAPEL HILL MEDIA GROUP

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CHAPELBORO.COM  
YOUR DAILY LOCAL NEWS SOURCE

Dear Charter School Advisory Board and State Board of Education,

On behalf of Chapel Hill Media Group, serving Orange, Chatham and Durham Counties, please accept this letter of support for the Granite State Charter Academy application.

Educational options is the number one priority for families choosing to relocate for personal or professional reasons. A high quality charter school with an innovative K-8 program will serve as an attractor and an anchor as this specific region continues to grow and demand for seats in Schools continues to grow with it. In fact, this charter school can be built more efficiently, more quickly and without using local/city/county tax dollars as charter schools' facilities are self-financed and funded.

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Please support our support of this critical need to increase and improve parental options for their children which will help our businesses and associations grow and serve the great state of North Carolina.

Sincerely,

**Aubrey Williams**

*General Manager*

Chapel Hill Media Group

97.9 The Hill WCHL and [Chapelboro.com](http://Chapelboro.com)

Office phone # 919-240-6045

Cell phone # 919-698-6569

**EXECUTIVE OFFICES**

3101 Industrial Drive, Suite 206  
Raleigh, NC 27609

Telephone: 919/733-9042  
Fax: 800-691-8399



**MAILING ADDRESS**

3101 Industrial Drive, Suite 206  
Raleigh, NC 27609

**WEB SITE**  
[www.ncbeec.org](http://www.ncbeec.org)

July 13, 2021

Dear Charter School Advisory Board and State Board of Education,

On behalf of North Carolina Board of Examiners of Electrical Contractors please accept this letter of support for the Granite State Charter Academy application. The North Carolina State Board of Examiners of Electrical Contractors license Electrical Contractors for the state of North Carolina.

Educational options is the number one priority for families choosing to relocate for personal or professional reasons. A high-quality charter school with an innovative K-8 program will serve as an attractor and an anchor as this specific region continues to grow and demand for seats in Schools continues to grow with it. In fact, this charter school can be built more efficiently, more quickly and without using local/city/county tax dollars as charter schools' facilities are self-financed and funded.

We support this charter application for a K-8 school to open in Chatham County. There are few schools of choice for parents in this area, and although the local schools are generally known to be higher performing schools, there are no options for parents who desire an innovative program for their children. The best schools in this county and surrounding area also limit enrollment based on residential zoning practices that inadvertently result in inequality and a lack of diversity. Charter Schools are open to all NC residents regardless of address or any other qualifying factors. Parents deserve the right to choose what is best for their children.

Please support our support of this critical need to increase and improve parental options for their children which will help our businesses and associations grow and serve the great state of North Carolina.

Sincerely,

Tim Norman  
Executive Director



North Carolina  
Licensing Board for General Contractors

July 21, 2021

Dear Charter School Advisory Board and State Board of Education,

The North Carolina Licensing Board for General Contractors (the Board) is pleased to offer this letter of support for the Granite State Charter Academy application. The Board is the agency that regulates the general contracting industry in North Carolina for the purpose of protecting life, health, and welfare for our citizens. North Carolina continues to grow and will continue to grow into the foreseeable future as our state is a highly desirable place to live, work, play and raise our families in safe vibrant communities.

Educational opportunity is a high priority for families choosing to relocate to North Carolina for personal or professional reasons. A high-quality charter school with an innovative K-8 program will attract young families and be a cornerstone for this region as it continues to grow. As families choose this region to live, the need for seats in the schools will require the inclusion of innovative educational opportunities such as Granite State Charter Academy to accommodate the growth. It is widely held that a charter school can be built more efficiently, more quickly and without using state and local tax dollars as charter schools' facilities are self-financed and funded.

The Board supports the inclusion of the school to skills approach that Granite State Charter Academy intends to provide as a K-8 school serving Chatham County. There are few schools of choice for parents in this growing area, and although the local public schools are generally known to be higher performing schools, there are no options for parents who desire an innovative educational program that includes exposure to the construction trades at a young age for their children. Granite State Charter Academy would provide this unique educational opportunity that could provide a future solution to a current critical need in the construction industry, which is a vital component to North Carolina's economy.

We ask that you consider our support of Granite State Charter Academy and seize this opportunity to improve the educational options available to families in Chatham County and the surrounding area. The addition of Granite State Charter Academy will prove to be an asset to the community it serves and to our great state of North Carolina.

Sincerely,

A handwritten signature in black ink, appearing to read "Lee E. Thomason".

Lee E. Thomason  
Chairman

A handwritten signature in black ink, appearing to read "C. Frank Wiesner".

C. Frank Wiesner  
Executive Director

5400 Creedmoor Rd  
Raleigh, North Carolina 27612  
919-571-4183

# Granite State Electric LLC

---

11312 US 15-501 North, Suite 107/202  
Chapel Hill, NC 27517  
919-542-7332 office

July 1, 2021

Dear Charter School Advisory Board and State Board of Education,

We support this charter application for a K-8 school to open in Chatham County. There are few schools of choice for parents in this area, and although the local schools are generally known to be higher performing schools, there are no options for parents who desire an innovative program for their children. The best schools in this county and surrounding area also limit enrollment based on residential zoning practices that inadvertently result in inequality and a lack of diversity. Charter Schools are open to all NC residents regardless of address or any other qualifying factors. Parents deserve the right to choose what is best for their children.

---

We represent Granite State Electric LLC which speaks on behalf of Chatham County residents and future residents. As you know, educational options is the number one priority for families choosing to relocate for personal or professional reasons. A high-quality charter school with an innovative K-8 program will serve as an attractor and an anchor as this specific region continues to grow and demand for seats in Schools continues to grow with it. In fact, this charter school can be built more efficiently, more quickly and without using local/city/county tax dollars as charter schools' facilities are self-financed and funded.

Please support our support of this critical need to increase and improve parental options for their children which will help our businesses and associations grow and serve the great state of North Carolina.

Sincerely,



David Foye

Owner

Granite State Electric

[dfoye@granitestateelectricllc.com](mailto:dfoye@granitestateelectricllc.com)

# Granite State Electric LLC

---

11312 US 15-501 North, Suite 107/202  
Chapel Hill, NC 27517  
919-542-7332 office

July 1, 2021

Dear Charter School Advisory Board and State Board of Education,

We support this charter application for a K-8 school to open in Chatham County. There are few schools of choice for parents in this area, and although the local schools are generally known to be higher performing schools, there are no options for parents who desire an innovative program for their children. The best schools in this county and surrounding area also limit enrollment based on residential zoning practices that inadvertently result in inequality and a lack of diversity. Charter Schools are open to all NC residents regardless of address or any other qualifying factors. Parents deserve the right to choose what is best for their children.

---

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Please support our support of this critical need to increase and improve parental options for their children which will help our businesses and associations grow and serve the great state of North Carolina.

Sincerely,



David Foye

Owner

Granite State Electric

[dfoye@granitestateelectricllc.com](mailto:dfoye@granitestateelectricllc.com)



July 6, 2021

Dear Charter School Advisory Board and State Board of Education,

On behalf of the Home Builders Association of Durham, Orange and Chatham Counties (HBA DOC) please accept this letter of support for the Granite State Charter Academy application. The HBA DOC represents over 600 members within the residential construction industry throughout the greater Triangle Region. Educational options is the number one priority for families choosing to relocate for personal or professional reasons. A high quality charter school with an innovative K-8 program will serve as an attractor and an anchor as this specific region continues to grow and demand for seats in Schools continues to grow with it. In fact, this charter school can be built more efficiently, more quickly and without using local/city/county tax dollars as charter schools' facilities are self-financed and funded.

I/We support this charter application for a K-8 school to open in Chatham County. There are few schools of choice for parents in this area, and although the local schools are generally known to be higher performing schools, there are no options for parents who desire an innovative program for their children. The best schools in this county and surrounding area also limit enrollment based on residential zoning practices that inadvertently result in inequality and a lack of diversity. Charter Schools are open to all NC residents regardless of address or any other qualifying factors. Parents deserve the right to choose what is best for their children.

Please support our support of this critical need to increase and improve parental options for their children which will help our businesses and associations grow and serve the great state of North Carolina.

Sincerely,

Holly Fraccaro, CEO



44 Hillsboro Street Suite B  
Pittsboro NC 27312  
Office: 919-542-4442

7-6-2021

Dear Charter School Advisory Board and State Board of Education,

On behalf of Horizon Renovations LLC, a Chatham County business, please accept this letter of support for the Granite State Charter Academy application.

Educational options is the number one priority for families choosing to relocate for personal or professional reasons. A high-quality charter school with an innovative K-8 program will serve as an attractor and an anchor as this specific region continues to grow and demand for seats in Schools continues to grow with it. In fact, this charter school can be built more efficiently, more quickly and without using local/city/county tax dollars as charter schools' facilities are self-financed and funded.

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Please support our support of this critical need to increase and improve parental options for their children which will help our businesses and associations grow and serve the great state of North Carolina.

Sincerely,

A handwritten signature in black ink, appearing to read "John Smith", is written over a white background.

Horizon Renovations LLC



MICHELE HOBAUGH

 BROKER, REALTOR<sup>®</sup>

Dear Charter School Advisory Board and State Board of Education,

I support this charter application for a K-8 school to open Chatham County.

There are few schools of choice for parents in this area, and although the local schools are generally known to be higher performing schools, there are options parents who desire an innovative program for their children such as the program proposed by Granite State Academy.

The best schools in this county and surrounding area also limit enrollment based on residential zoning practices that inadvertently result in inequality and a lack of diversity. Charter Schools are open to all NC residents regardless of address or any other qualifying factors. Parents deserve the right choose what is best for their children.

Here is a link to the website: <https://granitestatecharter.org/>

Sincerely,

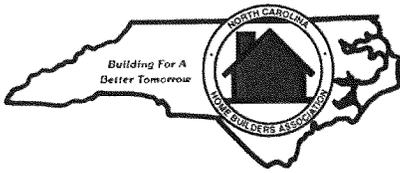


Michele Hobaugh



**Michele Hobaugh, Broker | 919.500.3882 "Sell Phone" | Email: Michele.Hobaugh@allentate.com**  
Realtor<sup>®</sup>, ABR, GRI, CRS **Website: allentate.com/michelehobaugh**

Allen Tate Realtors | 114 Russet Run, Suite 110 | Pittsboro, NC 27312 | Office 919.913.4990



## NORTH CAROLINA HOME BUILDERS ASSOCIATION

P.O. BOX 99090 • RALEIGH, N.C. 27624-9090

PHONE (919) 676-9090 • TOLL FREE 1-800-662-7129 • FAX (919) 676-0402

www.nchba.org • www.21buildingexpo.com

### 2020 NCHBA OFFICERS

#### President

MARK MARTIN  
Kitty Hawk, (252) 261-1123  
mark@outerbanksbuilders.com

#### President-Elect

MICHAEL ENSCORE  
Kernersville, (336) 404-1522  
mike@constructionbyveritas.com

#### First Vice President

WES CARROLL  
Cary, (919) 858-8383  
wcarroll@uprightbuilders.com

#### Vice President, Region I

CRAIG JOHNSON  
Wrightsville Beach, (910) 399-5688  
craig@herringtonclassichomes.com

#### Vice President, Region II

FRANK McLAWHORN  
Chocowinity, (252) 714-7969  
frankmclawhorn@gmail.com

#### Vice President, Region III

WARREN SMITH  
Raleigh, (919) 841-4901  
landlraleigh@yahoo.com

#### Vice President, Region IV

TOM HALL  
Greensboro, (336) 362-7233  
thall@windsorinvestments.com

#### Vice President, Region V

DANIEL BUREAU  
West End, (910) 673-0047  
bureaubdg@gmail.com

#### Vice President, Region VI

JAMIE WIGHTMAN  
Concord, (704) 782-2666  
wightmanjamie@yahoo.com

#### Vice President, Region VII

JONATHAN LEE  
Clemmons, (336) 766-7715  
jonathan@homesbylee.com

#### Vice President, Region VIII

JAMES PRESSLY  
Statesville, (704) 872-1000  
jhpressly@gmail.com

#### Vice President, Region IX

CODY BYRD  
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cody.byrd@alairhomes.com

#### Vice President, Region X

BRANDON BRYANT  
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brandon@redtreebuilders.com

#### Secretary/Treasurer

KATHY CRAVEN SNODGRASS  
Winston-Salem, (336) 726-7810  
kathy.cravensnodgrass@duke-energy.com

#### Immediate Past President & NAHB

##### Executive Committee State Rep.

PHIL WARRICK  
Greensboro, (336) 378-0209  
popsandco@gmail.com

##### NAHB Executive Committee

BUDDY HUGHES  
Lexington, (336) 240-3097  
hucon@ptmc.net

##### Executive Vice President

MIKE CARPENTER

July 12, 2021

Dear Members of the Charter School Advisory Board and the North Carolina State Board of Education:

On behalf of the over 14,000 members of the North Carolina Home Builders Association, we would like to extend our support for the Granite State Charter Academy application. Our members provide the American dream of homeownership to North Carolina families each year.

We strongly support this application because of its emphasis on career technical training. As North Carolina continues to grow, our industry will be needing more and more highly paid skilled workers to fill the need. Even though the opportunities to be successful in the trades are great, there are few places that provide the necessary learning resources to provide these future tradespeople.

The approval of the Granite State Charter Academy is one way you can make a difference for our industry and future homeowners by giving young people more options to be successful for their future.

Thank you for your consideration.

Sincerely,

Tim Minton  
Executive Vice President

\*EUGENE A. GULLEDGE (1964)  
C. PHIL ROBINSON, JR. (1966)  
\*CARL W. JOHNSON (1967)  
\*JOHN CROSLAND, JR. (1968)  
\*J.M. DAUGHTRIDGE (1969)  
\*HOMER BARRETT (1970)  
\*JAMES W. LESTER (1971)  
CHARLES C. McLAURIN (1972)  
\*J. VAUGHN KLUTTS (1973)  
\*Deceased

\*C. L. REAVIS (1974)  
\*JOHN T. BELL (1975)  
\*WILLIAM T. BOYD (1976)  
LaRUE HAMBRICK (1977)  
J. RAY SPARROW (1978)  
SHERRILL FAW (1979)  
MARK E. TIPTON (1980)  
M. DURWOOD STEPHENSON (1981)  
J. WATTS ROBERSON (1982)

\*NELSON CALLAHAN (1983)  
\*PAUL D. TROLLINGER (1984)  
RICK BATCHELOR (1985)  
BURL LANCE (1986)  
LARRY SUMMER (1987)  
HERSCHEL REDDING (1988)  
JAMES FORD (1989)  
\*STEVE NASH (1990)  
HARRIS B. GUPTON (1991)

RUSS DAVIS (1992)  
CHUCK MILLER (1993)  
CHARLES MULLEN (1994)  
ROBERT INGRAHAM (1995)  
DAVID PRESSLY, JR. (1996)  
DONALD W. BETSWORTH (1997)  
GEORGE HENSON (1998)  
ROBERT YATKO (1999)  
DANNY ADAMS (2000)

JONATHAN ELLIOT (2001)  
DON CROOM (2002)  
GREG ISENHOUR (2003)  
RICK JUDSON (2004)  
BUDDY HUGHES (2005)  
DAVE STORMONT (2006)  
PAUL MULLICAN (2007)  
RAY RHODES (2008)  
FRANK WIESNER (2009)

LYLE GARDNER (2010)  
BILL DALEURE (2011)  
ERIK ANDERSON (2012)  
J. GARY HILL (2013-14)  
SEAN SULLIVAN (2015)  
BRIAN PACE (2016)  
GARY EMBLER (2017)  
ALAN BANKS (2018)  
PHIL WARRICK (2019)

# PRESTON DEVELOPMENT COMPANY

105 Weston Estates Way ■ Cary, North Carolina 27513 ■ 919-481-3000 ■ Fax 919-677-8600  
www.prestondevelopment.com

July 6, 2021

Dear Charter School Advisory Board and State Board of Education,

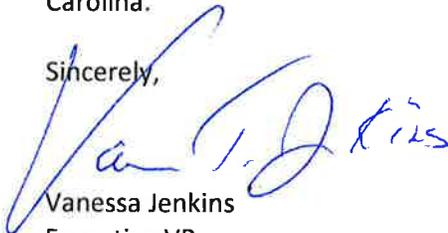
On behalf of Preston Development Company dba Chatham Park, a Chatham County business, please accept this letter of support for the Granite State Charter Academy application.

Educational options is the number one priority for families choosing to relocate for personal or professional reasons. A high quality charter school with an innovative K-8 program will serve as an attractor and an anchor as this specific region continues to grow and demand for seats in Schools continues to grow with it. In fact, this charter school can be built more efficiently, more quickly and without using local/city/county tax dollars as charter schools' facilities are self-financed and funded.

I/We support this charter application for a K-8 school to open in Chatham County. There are few schools of choice for parents in this area, and although the local schools are generally known to be higher performing schools, there are no options for parents who desire an innovative program for their children. The best schools in this county and surrounding area also limit enrollment based on residential zoning practices that inadvertently result in inequality and a lack of diversity. Charter Schools are open to all NC residents regardless of address or any other qualifying factors. Parents deserve the right to choose what is best for their children.

Please support our support of this critical need to increase and improve parental options for their children which will help our businesses and associations grow and serve the great state of North Carolina.

Sincerely,



Vanessa Jenkins  
Executive VP



## State Board of Examiners of Plumbing, Heating & Fire Sprinkler Contractors

1109 Dresser Court, Raleigh NC 27609-7302

Phone: 919-875-3612 Fax: 919-875-3612

July 16, 2021

Dear Charter School Advisory Board and State Board of Education,

On behalf of the State Board of Examiners of Plumbing, Heating & Fire Sprinkler Contractors please accept this letter of support for the Granite State Charter Academy application. The Board represents plumbing, heating, fire sprinkler and fuel piping industry as the state agency that licensing all of these trades. We currently have about 14,500 licensees throughout North Carolina.

Educational options is the number one priority for families choosing to relocate for personal or professional reasons. A high-quality charter school with an innovative K-8 program will serve as an attractor and an anchor as this specific region continues to grow and demand for seats in Schools continues to grow with it. In fact, this charter school can be built more efficiently, more quickly and without using local/city/county tax dollars as charter schools' facilities are self-financed and funded.

We support this charter application for a K-8 school to open in Chatham County. There are few schools of choice for parents in this area, and although the local schools are generally known to be higher performing schools, there are no options for parents who desire an innovative program for their children. The best schools in this county and surrounding area also limit enrollment based on residential zoning practices that inadvertently result in inequality and a lack of diversity. Charter Schools are open to all NC residents regardless of address or any other qualifying factors. Parents deserve the right to choose what is best for their children.

Please support our support of this critical need to increase and improve parental options for their children which will help our businesses and associations grow and serve the great state of North Carolina.

Sincerely,

  
Dale L. Dawson  
Executive Director



**Triangle Community Coalition**

~Bringing balanced solutions to growth issues in all our communities

July 15, 2021

Dear Charter School Advisory Board and State Board of Education,

On behalf of Triangle Community Coalition please accept this letter of support for the Granite State Charter Academy application. The Triangle Community Coalition represents 110 companies throughout the Triangle region.

Educational options is the number one priority for families choosing to relocate for personal or professional reasons. A high quality charter school with an innovative K-8 program will serve as an attractor and an anchor as this specific region continues to grow and demand for seats in Schools continues to grow with it. In fact, this charter school can be built more efficiently, more quickly and without using local/city/county tax dollars as charter schools' facilities are self-financed and funded.

We support this charter application for a K-8 school to open in Chatham County. There are few schools of choice for parents in this area, and although the local schools are generally known to be higher performing schools, there are no options for parents who desire an innovative program for their children. The best schools in this county and surrounding area also limit enrollment based on residential zoning practices that inadvertently result in inequality and a lack of diversity. Charter Schools are open to all NC residents regardless of address or any other qualifying factors. Parents deserve the right to choose what is best for their children.

Please support our support of this critical need to increase and improve parental options for their children which will help our businesses and associations grow and serve the great state of North Carolina.

Sincerely,

Jacob C. Rogers  
Chief Executive Officer

# Granite State Charter Academy

Granite State Charter Academy es una escuela de matrícula gratuita para los grados K-8 disponible para familias en cualquier lugar en Carolina del Norte. Nuestra academia ofrece acceso y exposición a clases electivas y cursos que enseñan habilidades del mundo real para que los estudiantes puedan tener carreras exitosas. El interés y dominio en destrezas vocacionales es nuestra meta incluyendo artesanías, educación financiera, ingeniería, plomería y mucho más. ¡Preparen a sus hijos para un futuro exitoso!

1. ¿Tiene hijos entre las edades de 5-12?

*Mark only one oval.*

Sí

No

2. ¿Consideraría una escuela de matrícula gratuita para su niño?

*Mark only one oval.*

Sí

No

3. ¿Vive a una distancia donde pueda llegar manejando o en transporte público a el condado de Chatham?

*Mark only one oval.*

Sí

No

4. ¿Le gustaría que su hijo tuviera clases de Educación Técnica Profesional (ETP) en escuela intermedia? (Computación, Ingeniería, Codificación etc.)

*Mark only one oval.*

Sí

No

5. ¿Le gustaría que su hijo continuara tomando estos cursos (ETP) hasta escuela secundaria y que reciba certificaciones?

*Mark only one oval.*

Sí

No

6. Por favor añada su nombre y correo electrónico para poder enviarle actualizaciones de nuestro progreso.

---

This content is neither created nor endorsed by Google.

## Google Forms

# Granite State Charter Academy

---

\* Required

1. Do you have children between the ages of 5-12? \*

*Mark only one oval.*

Yes

No

2. Would you consider a tuition-free school for your child? \*

*Mark only one oval.*

Yes

No

3. Do you live within driving or public transportation distance of Chatham County? \*

*Mark only one oval.*

Yes

No

Maybe

4. Would you like your child to have Career Technical Education (CTE) classes in middle school? (Computing, Engineering, Coding etc.) \*

*Mark only one oval.*

Yes

No

5. Would you like your child to continue taking these courses to gain HS credits and in high school and receive certifications for colleges and careers?

*Mark only one oval.*

Yes

No

6. Please add your name and email so we can send you updates on our progress. \*

---

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This content is neither created nor endorsed by Google.

Google Forms



## Granite State Charter Academy Support Petition

- ~~K. Stewart~~ - ~~[Signature]~~
- ~~[Signature]~~ Bryan Maynard
- ~~[Signature]~~
- ~~[Signature]~~
- Anna Raugh Gaudette
- Agapul Gomez
- ~~[Signature]~~
- ~~[Signature]~~
- ~~[Signature]~~
- ~~[Signature]~~
- ~~[Signature]~~
- ~~[Signature]~~
- ~~[Signature]~~ Jennifer Hoffman 919.452-7111
- ~~[Signature]~~
- ~~[Signature]~~ RYAN AXBRS
- ~~[Signature]~~
- ~~[Signature]~~ - MIKE TARRANT 919.418.4338
- Michelle Cyn - Zach Spencer 919.610.8241
- ~~[Signature]~~ - David Clark 703.307.0558
- ~~[Signature]~~

~~Michael Mehringer~~

- MICHAEL MEHRINGER

- Evan Scalza

- Mitchell Kaufman Mitch Kaufmann 919 943 968

- Dan Jewell 919 279 6601

~~Butch~~

- Judith K Dinelle

JUDITH R DINELE

- Mitch Barron

MITCH BARRON

- Matt Fitzen

Matt Fitzen

- Bennett Sterling

Bennett Sterling



## Granite State Charter Academy

Granite State Charter Academy is a K-8 tuition free public charter school serving families anywhere in NC who want their children to have access and exposure to hands-on electives and courses for real-life skills and careers (Career and Technical Skills). Interest and mastery in trade skills is our goal including craftsmanship, plumbing, electrical engineering, mechanical engineering, and much more. Prepare your children for a successful future!

Survey Question	Yes	No
Do you have children ages 5-12?		<del>No</del> Soon to be 3 and 1
Would you consider a tuition free charter school for your child?	✓	
Do you live within driving distance or bus transportation to Chatham County?	✓	
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	✓	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	✓	
Would you want your child to continue CTE courses in high school that lead to certifications?	✓	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Stephanie Gibson	Stgibson05@gmail.com



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Survey Question	Yes	No
Do you have children ages 5-12?		✓
Would you consider a tuition free charter school for your child?	✓	
Do you live within driving distance or bus transportation to Chatham County?	✓	
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	✓	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	✓	
Would you want your child to continue CTE courses in high school that lead to certifications?	✓	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Sharon Stephens	shebastep@gmail.com



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Survey Question	Yes	No
Do you have children ages 5-12?		<input checked="" type="checkbox"/> (grandchild)
Would you consider a tuition free charter school for your child?	<input checked="" type="checkbox"/>	
Do you live within driving distance or bus transportation to Chatham County?	<input checked="" type="checkbox"/>	
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	<input checked="" type="checkbox"/>	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	<input checked="" type="checkbox"/>	
Would you want your child to continue CTE courses in high school that lead to certifications?	<input checked="" type="checkbox"/>	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Willie Womble	DTWomble@gmail.com



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Survey Question	Yes	No
Do you have children ages 5-12?	X	
Would you consider a tuition free charter school for your child?	X	
Do you live within driving distance or bus transportation to Chatham County?	X	
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	X	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	X	
Would you want your child to continue CTE courses in high school that lead to certifications?	X	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Jeff Doriguzzi	jeffdoriguzzi@gmail.com



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Survey Question	Yes	No
Do you have children ages 5-12?	✓	
Would you consider a tuition free charter school for your child?	✓	
Do you live within driving distance or bus transportation to Chatham County?		✓
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	✓	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	✓	
Would you want your child to continue CTE courses in high school that lead to certifications?	✓	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Jason Shaver	Ironman0611@AOL.com



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Survey Question	Yes	No
Do you have children ages 5-12?	✓	
Would you consider a tuition free charter school for your child?	✓	
Do you live within driving distance or bus transportation to Chatham County?	✓	
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	✓	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	✓	
Would you want your child to continue CTE courses in high school that lead to certifications?	✓	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Raquel Nunez	Raquelavilagas@gmail.com



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Survey Question	Yes	No
Do you have children ages 5-12?	✓	
Would you consider a tuition free charter school for your child?	✓	
Do you live within driving distance or bus transportation to Chatham County?		/
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	✓	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	✓	
Would you want your child to continue CTE courses in high school that lead to certifications?	✓	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Jamaal Scarlett#ScarlettJamaal@gmail.com	



## Granite State Charter Academy

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Survey Question	Yes	No
Do you have children ages 5-12?	X	
Would you consider a tuition free charter school for your child?	X	
Do you live within driving distance or bus transportation to Chatham County?	X	
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	X	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	X	
Would you want your child to continue CTE courses in high school that lead to certifications?	X	
	Name	Email
Please add your name and email address so we can send you updates of our progress		1212 Sandra.Serrano@gmail.com



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Survey Question	Yes	No
Do you have children ages 5-12?	✓	
Would you consider a tuition free charter school for your child?	✓	
Do you live within driving distance or bus transportation to Chatham County?		✓
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	✓	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)		✓
Would you want your child to continue CTE courses in high school that lead to certifications?		✓
	<b>Name</b>	<b>Email</b>
Please add your name and email address so we can send you updates of our progress	SAM CRAFT	SCRAFT@GMAIL.COM



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Survey Question	Yes	No
Do you have children ages 5-12?		X
Would you consider a tuition free charter school for your child?	X	<del>X</del>
Do you live within driving distance or bus transportation to Chatham County?	X	X
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	X	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	X	
Would you want your child to continue CTE courses in high school that lead to certifications?	X	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Tarvia Johnson	tjtalent22@gmail.com



## Granite State Charter Academy

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Survey Question	Yes	No
Do you have children ages 5-12?	✓	
Would you consider a tuition free charter school for your child?	✓	
Do you live within driving distance or bus transportation to Chatham County?		✓
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	✓	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	✓	
Would you want your child to continue CTE courses in high school that lead to certifications?	✓	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Shawna Wotton woodyshawna@yahoo.com	



## Granite State Charter Academy

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Survey Question	Yes	No
Do you have children ages 5-12?	YES	
Would you consider a tuition free charter school for your child?		NO
Do you live within driving distance or bus transportation to Chatham County?		NO
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	YES	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	YES	
Would you want your child to continue CTE courses in high school that lead to certifications?	YES	
	Name	Email
Please add your name and email address so we can send you updates of our progress	INGAUS09@YAHOO.COM	



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Survey Question	Yes	No
Do you have children ages 5-12?		✓
Would you consider a tuition free charter school for your child?	✓	
Do you live within driving distance or bus transportation to Chatham County?	✓	
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	✓	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	✓	
Would you want your child to continue CTE courses in high school that lead to certifications?	✓	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Brittany Lawson annbrittany@gmail.com	annbrittany3@gmail.com



## Granite State Charter Academy

Granite State Charter Academy is a K-8 tuition free public charter school serving families anywhere in NC who want their children to have access and exposure to hands-on electives and courses for real-life skills and careers (Career and Technical Skills). Interest and mastery in trade skills is our goal including craftsmanship, plumbing, electrical engineering, mechanical engineering, and much more. Prepare your children for a successful future!

Survey Question	Yes	No
Do you have children ages 5-12?		
Would you consider a tuition free charter school for your child?		
Do you live within driving distance or bus transportation to Chatham County?		
Would you want your child to have hands-on projects and activities that teach skills in elementary school?		
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)		
Would you want your child to continue CTE courses in high school that lead to certifications?		
	Name	Email
Please add your name and email address so we can send you updates of our progress	Sonus Nobles	SonusNobles@yahoo.com



## Granite State Charter Academy

Granite State Charter Academy is a K-8 tuition free public charter school serving families anywhere in NC who want their children to have access and exposure to hands-on electives and courses for real-life skills and careers (Career and Technical Skills). Interest and mastery in trade skills is our goal including craftsmanship, plumbing, electrical engineering, mechanical engineering, and much more. Prepare your children for a successful future!

Survey Question	Yes	No
Do you have children ages 5-12?	✓	
Would you consider a tuition free charter school for your child?		✓
Do you live within driving distance or bus transportation to Chatham County?	✓	
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	✓	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	✓	
Would you want your child to continue CTE courses in high school that lead to certifications?	✓	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Melissa Edmiston	medmiston31@gmail.com



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Would you want your child to continue CTE courses in high school that lead to certifications?	✓	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Sarah Cox	scox114@yahoo.com



## Granite State Charter Academy

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Survey Question	Yes	No
Do you have children ages 5-12?	✓	
Would you consider a tuition free charter school for your child?	✓	
Do you live within driving distance or bus transportation to Chatham County?		✓
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	✓	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	✓	
Would you want your child to continue CTE courses in high school that lead to certifications?	✓	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Kirby Kelly	Kirbrides@yahoo.com



## Granite State Charter Academy

Granite State Charter Academy is a K-8 tuition free public charter school serving families anywhere in NC who want their children to have access and exposure to hands-on electives and courses for real-life skills and careers (Career and Technical Skills). Interest and mastery in trade skills is our goal including craftsmanship, plumbing, electrical engineering, mechanical engineering, and much more. Prepare your children for a successful future!

Survey Question	Yes	No
Do you have children ages 5-12?	✓	
Would you consider a tuition free charter school for your child?	✓	
Do you live within driving distance or bus transportation to Chatham County?	✓	
Would you want your child to have hands-on projects and activities that teach skills in elementary school?	✓	
Would you want your child to have Career and Technical Education (CTE) classes in middle school? (Computers, engineering, coding etc.)	✓	
Would you want your child to continue CTE courses in high school that lead to certifications?	✓	
	Name	Email
Please add your name and email address so we can send you updates of our progress	Panda Posey saposseywechat@ yahoo.com	



Questions Responses 2 Settings

2 responses



Accepting responses

Summary

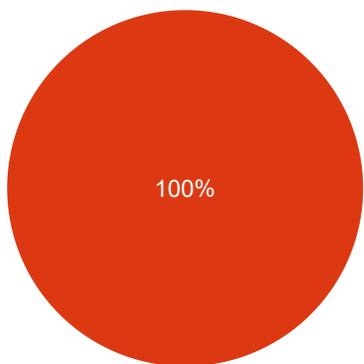
Question

Individual

Do you have children between the ages of 5-12?



2 responses

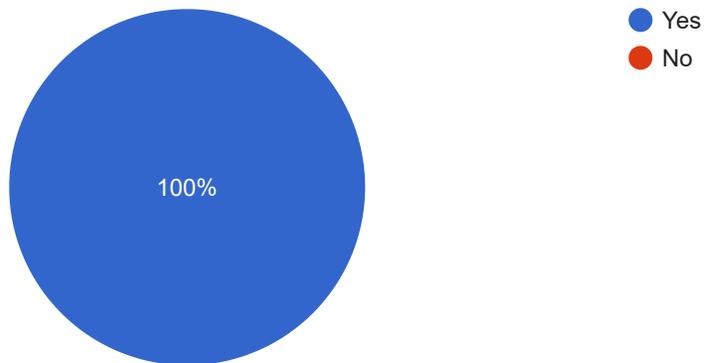


- Yes
- No

Would you consider a tuition-free school for your child?

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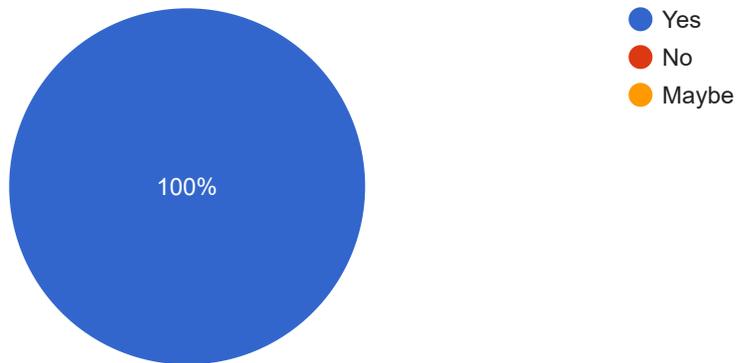
2 responses



Do you live within driving or public transportation distance of Chatham County?

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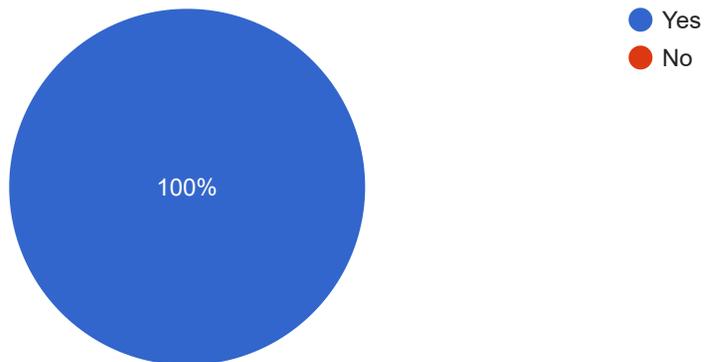
2 responses



Would you like your child to have Career Technical Education (CTE) classes in middle school? (Computing, Engineering, Coding etc.)



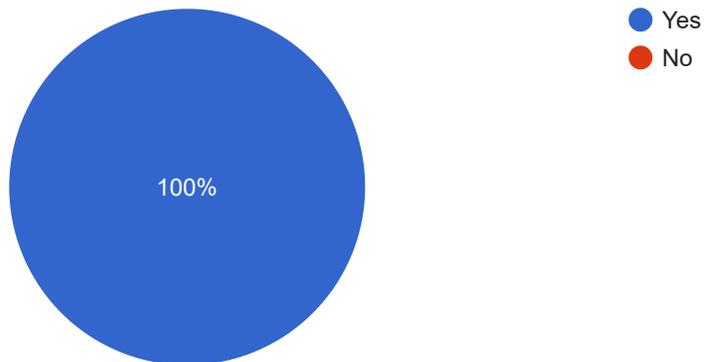
2 responses



Would you like your child to continue taking these courses to gain HS credits and in high school and receive certifications for colleges and careers?



2 responses



Please add your name and email so we can send you updates on our progress.

2 responses

George Linney glinney@cimginc.com

Matt Lawing matt@westandwoodall.com

# Granite State Charter Academy

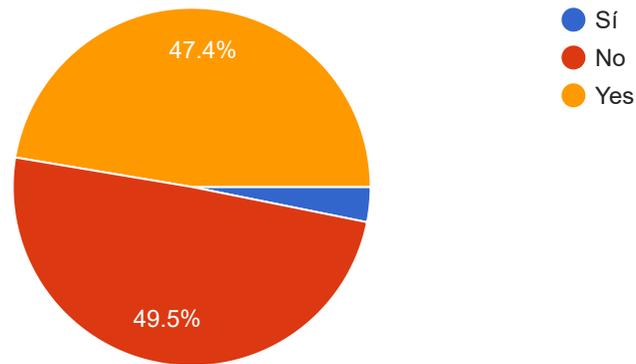
96 responses

[Publish analytics](#)

¿Tiene hijos entre las edades de 5-12?

 [Copy](#)

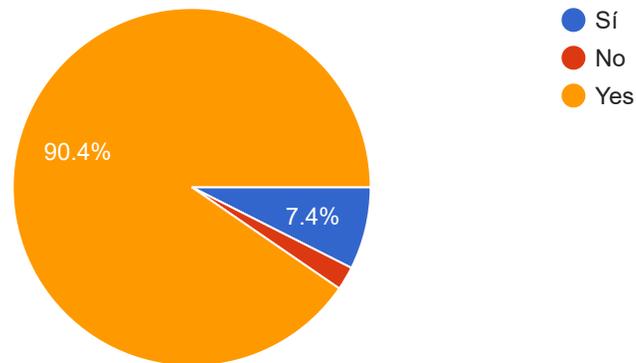
95 responses



¿Consideraría una escuela de matrícula gratuita para su niño?

 [Copy](#)

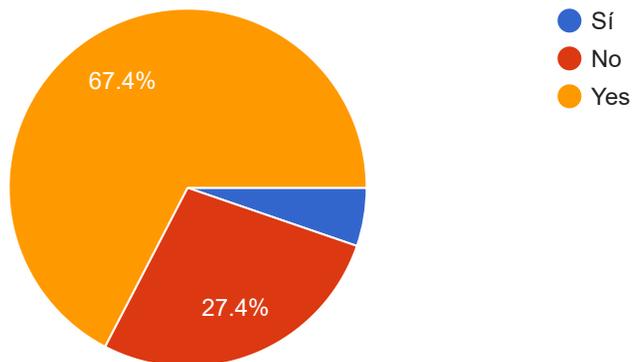
94 responses



¿Vive a una distancia donde pueda llegar manejando o en transporte público a el condado de Chatham?



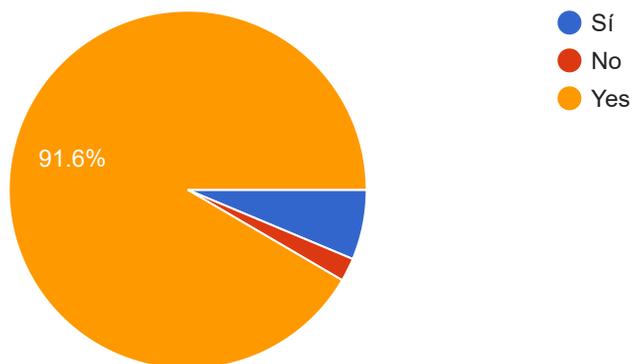
95 respuestas



¿Le gustaría que su hijo tuviera clases de Educación Técnica Profesional (ETP) en escuela intermedia? (Computación, Ingeniería, Codificación etc.)



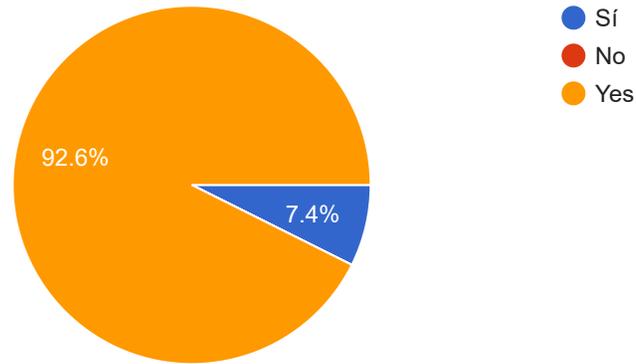
95 respuestas



¿Le gustaría que su hijo continuara tomando estos cursos (ETP) hasta escuela secundaria y que reciba certificaciones?



95 responses



Por favor añada su nombre y correo electrónico para poder enviarle actualizaciones de nuestro progreso.

61 responses

steve@inspeople.com

Chi Yiu CWy0608@hotmail.com

Willgoss@yahoo.com

Didnotansweryes

Joyce Kenner Joyk39@gmail.com

Holly Fraccaro, holly@hbadoc.com

vjpenley@gmail.com

jenny@jhoffmanstudio.com

Cherie Taylor. locherie2000@gmail.com

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Granite State Charter Academy  
Appendix B  
Curriculum Outline Per Grade Span

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>How Many Ways?</i> Explore different ways to show 10 with 2, 3, or 4 addends.								
<b>1-1</b> Math Is Mine	Students identify their own and others' strengths in math.	Students use <i>am</i> and <i>is</i> to identify their own and others' strengths in math.	Students describe their feelings and attitudes toward mathematics.	<b>1-1</b>	Math Terms Academic Terms skill superpowers	• blank paper • crayons or colored pencils	Conceptual Understanding	K.CC.A.1
<b>1-2</b> Math Is Exploring and Thinking	Students explain what a problem is and ways to solve it. They relate quantities in a problem.	Students discuss the relationships between quantities and problems while identifying solutions using <i>can</i> .	Students recognize when they feel frustration during math class.	<b>1-2</b>	problem explain	• counters or other counting manipulatives	Conceptual Understanding	K.OA.A.2
<b>1-3</b> Math Is In My World	Students explore ways to use mathematics to show real-world situations.	Students use <i>can</i> to explain and show real-world phenomena with mathematical models.	Students show appreciation for the different perspectives of their classmates.	<b>1-3</b>	equation tool model	• counters or other counting manipulatives	Conceptual Understanding	K.OA.A.2
<b>1-4</b> Math Is Explaining and Sharing	Students explore ways to explain their thinking. They respond to the ideas of their classmates.	Students explain their thinking and respond to their classmates using <i>have</i> .	Students practice showing respects for classmates as they share ideas and thinking.	<b>1-4</b>	attribute vertices explain listen	• six pieces of paper for each student • crayons or colored pencils	Conceptual Understanding	K.G.B.4
<b>1-5</b> Math Is Finding Patterns	Students explore strategies for describing and extending patterns.	Students use <i>can</i> to describe strategies for finding patterns.	Students practice self-control as they learn to take turns when sharing ideas with a partner or in a group.	<b>1-5</b>	pattern describe explain	• 20 tiles (or other counting manipulatives) per student group, 10 in one color and 10 in a second color	Conceptual Understanding	K.OA.A.3
<b>1-6</b> Math Is Ours	Students describe the behaviors and mindsets that contribute to a productive learning environment.	Students use pronouns such as <i>we</i> to think about skills, behaviors, and mindsets that contribute to a productive learning environment.	Students discuss expectations for working productively with classmates.	<b>1-6</b>	norms promise	• blank paper	Conceptual Understanding	K.CC.B.5
<b>Unit Review</b>								
<b>Fluency Practice</b>								

PACING: 9 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>Number Patterns</i> Students describe and continue growing patterns of shapes.										
2-1	Counting Patterns to 100	Students identify patterns when counting to 100.	Students use phrasal verbs such as <i>go up by</i> , <i>start at</i> , and <i>comes next</i> to identify patterns when counting to 100.	2-1	Math Terms count ones pattern tens	Academic Terms describe order	• <i>Number Cards 1–120</i> Teaching Resource	Conceptual Understanding Procedural Skill & Fluency	1.NBT.A.1	
2-2	Patterns on a Number Chart to 120	Students describe patterns on a number chart.	Students use the academic terms <i>continue</i> , <i>go up</i> , and <i>stay the same</i> to describe patterns on a number chart.	2-2	column number chart ones pattern row tens	always discuss explain	• counters • <i>Number Chart 1–120</i> Teaching Resource	Conceptual Understanding Procedural Skill & Fluency	1.NBT.A.1	
2-3	Patterns on a Number Line	Students identify patterns on a number line when counting to 120.	Students identify patterns on a number line when counting to 120 using <i>have</i> to indicate characteristics or other qualities.	2-3	number line ones pattern tens	explain locate	• <i>Number Cards 1–120</i> Teaching Resource • <i>Number Chart 1–120</i> Teaching Resource	• string or yarn • tape or clips	Conceptual Understanding Procedural Skill & Fluency	1.NBT.A.1
<b>Math Probe</b> <i>Counting by 1s</i> Students circle the number that comes next in a pattern when counting by 1s.										
2-4	Patterns When Reading and Writing Numbers	Students can use patterns to read and write numbers to 120.	Students describe patterns to read and write numbers to 120 using present tense.	2-4	ones pattern tens	begin explain	• number cubes (prepared with sides labeled 1, 1, 2, 3, 4, 4) • <i>Blank Number Lines 2</i> Teaching Resource	• <i>Number Cards 1–120</i> Teaching Resource	Conceptual Understanding Procedural Skill & Fluency	1.NBT.A.1
2-5	Patterns When Representing Objects in a Group	Students can count a number of objects. Students can show how many with a written numeral.	Students use <i>there is/there are</i> to express a number of objects.	2-5	count how many	explain organize	• counters, pennies, connecting cubes, or other small counting objects	Conceptual Understanding Procedural Skill & Fluency	1.NBT.A.1	
<b>Unit Review</b>										
<b>Fluency Practice</b>										
<b>Performance Task</b>										
<b>Unit Assessment</b>										

PACING: 14 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Math</i> Seeing Dots Determine, by sight, the number of dots when presented with unstructured and structured patterns.									
3-1	Numbers 11 to 19	Students understand that teen numbers are composed of a ten and some ones.	Students use <i>and</i> to describe that the numbers 11 through 19 are represented on ten frames and composed of a ten and some ones.	Students identify and discuss the emotions experienced during math learning.	3-1	<b>Math Terms</b> group of ten ones teen number ten-frame <b>Academic Terms</b> organize pattern	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>counters</li> <li>Double Ten-Frames Teaching Resource</li> <li>Number Cards 1–9 and 11–19 Teaching Resources</li> </ul>	Conceptual Understanding	1.NBT.B.2 1.NBT.B.2.a 1.NBT.B.2.b
<b>Math Probe</b> Show the Value of the Digit: Student Interview Identify the value of a digit in a 2-digit number.									
3-2	Understand Tens	Students understand that ten ones can be grouped as one ten.	Students use <i>some</i> to explain that ones can be grouped as one ten.	Students recognize personal strengths through thoughtful self-reflection.	3-2	ones tens discuss model	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>Ten-Frames Teaching Resource</li> </ul>	Conceptual Understanding	1.NBT.B.2 1.NBT.B.2.a 1.NBT.B.2.c
3-3	Represent Tens and Ones	Students represent 2-digit numbers with some tens and some ones.	Students use plurals to define 2-digit numbers with some tens and some ones.	Students set a focused mathematical goal and make a plan for achieving that goal.	3-3	ones tens begin explain	<ul style="list-style-type: none"> <li>building blocks</li> <li>connecting cubes</li> </ul>	Conceptual Understanding Procedural Skill	1.NBT.B.2
3-4	Represent 2-Digit Numbers	Students use place value to show 2-digit numbers.	Students use <i>can</i> to explain showing 2-digit numbers with different tools and representations.	Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.	3-4	ones place value place-value chart tens explain organize	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>Place-Value Chart Teaching Resource</li> </ul>	Conceptual Understanding	1.NBT.B.2
3-5	Represent 2-Digit Numbers in Different Ways	Students can represent 2-digit numbers in different ways.	Students use <i>also</i> to describe representing 2-digit numbers in different ways.	Students engage in respectful discourse with peers about various perspectives for approaching a mathematical challenge.	3-5	ones tens discuss explain	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>Number Cards 0–120 Teaching Resource</li> </ul>	Conceptual Understanding	1.NBT.B.2
3-6	Compare Numbers	Students can compare 2-digit numbers.	Students use comparatives such as <i>greater than</i> , <i>less than</i> , and <i>equal to</i> to compare 2-digit numbers.	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	3-6	compare equal to greater than less than	discuss observe <ul style="list-style-type: none"> <li>base-ten blocks</li> <li>Number Cards 0–120 Teaching Resource</li> <li>Number Chart 1–100 Teaching Resource</li> </ul>	Conceptual Understanding	1.NBT.B.3
3-7	Compare Numbers on a Number Line	Students can use number lines to compare 2-digit numbers.	Students locate 2-digit numbers on a number line and compare them based on their location using comparatives.	Students discuss and practice strategies for managing stressful situations.	3-7	compare equal to greater than less than number line locate relationship	<ul style="list-style-type: none"> <li>Blank Number Lines 2 Teaching Resource</li> </ul>	Conceptual Understanding	1.NBT.B.3
3-8	Use Symbols to Compare Numbers	Students compare numbers using the $>$ , $<$ , and $=$ symbols.	Students use the simple present tense to state facts to compare 2-digit numbers represented by base-ten blocks and two 2-digit numbers with the symbols $>$ , $<$ , and $=$ .	Students demonstrate thoughtful reflection through identifying the causes of challenges and successes while completing a mathematical task.	3-8	compare equal to ( $=$ ) greater than ( $>$ ) less than ( $<$ ) participate symbol	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>index cards</li> <li>Number Cards 0–120 Teaching Resource</li> </ul>	Conceptual Understanding	1.NBT.B.3

Unit Review  
Fluency Practice

Unit Assessment  
Performance Task

**PACING: 17 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>Interactive</i> <b>Missing Numbers in Shapes</b> Explore addition facts while trying to solve puzzles.								
<b>4-1</b>	<b>Relate Counting to Addition</b>	Students understand (explain) that addition is a more efficient way of determining a total.	Students use interrogative expressions with <i>how many</i> to show that addition is a more efficient way of finding a total.	<b>4-1</b>	<b>Math Terms</b> add addend sum	<b>Academic Terms</b> combined explain • counters • number cubes • paper bags	Conceptual Understanding	1.OA.C.5
<b>4-2</b>	<b>Count On to Add</b>	Students select one addend to start with and count on by the value of the second addend.	Students use the command form of verbs to explain how to select one addend to start with and count on.	<b>4-2</b>	add addend sum	strategies useful • blank number cubes • counters • <i>Number Cards 0–10</i> • <i>Number Line 0–20 Teaching Resource</i>	Conceptual Understanding, Procedural Skill	1.OA.C.6
<b>4-3</b>	<b>Doubles</b>	Students use doubles to add numbers within 20.	Students use <i>when</i> while defining how to use doubles to add numbers within 20.	<b>4-3</b>	add addend doubles sum	compare explore similar • connecting cubes • counters • index cards • <i>Number Cards 0–10 Teaching Resource</i>	Conceptual Understanding, Procedural Skill	1.OA.C.6
<b>4-4</b>	<b>Near Doubles</b>	Students use doubles facts they know to solve near-doubles problems.	Students respond to <i>Wh</i> -questions with doubles facts they know to solve near-doubles problems.	<b>4-4</b>	add addend doubles sum	almost build make related • connecting cubes • <i>Number Cards 0–10 Teaching Resource</i> • <i>Ten-Frames Teaching Resource</i>	Procedural Skill & Fluency	1.OA.C.6
<b>4-5</b>	<b>Make a 10 to Add</b>	Students use make a 10 strategy to solve addition equations within 20.	Students share how to use the make a 10 strategy to solve addition equations within 20 using <i>can</i> .	<b>4-5</b>	add, addend number bond sum, ten-frame	explore represent strategy • counters • <i>Number Bond 1 Teaching Resource</i> • <i>Number Cards 0–10 Teaching Resource</i> • <i>Ten-Frames Teaching Resource</i>	Procedural Skill & Fluency	1.OA.C.6
<b>4-6</b>	<b>Choose Strategies to Add</b>	Students choose an efficient strategy to solve an equation.	Students use past tense verbs to explain an efficient strategy chosen to solve an equation.	<b>4-6</b>	add addend sum	decide important information • connecting cubes, counters • <i>Number Bond 1 Teaching Resource</i> • <i>Ten-Frames Teaching Resource</i>	Conceptual Understanding, Procedural Skill	1.OA.C.6
<b>4-7</b>	<b>Use Properties to Add</b>	Students add numbers in any order.	Students express certainty using <i>will</i> when responding to questions about numbers added in any order.	<b>4-7</b>	add addend sum	matter order • connecting cubes • counters • <i>Number Line 0–20 Teaching Resource</i>	Conceptual Understanding	1.OA.B.3
<b>Math Probe Solving Problems</b> Gather data on students' understanding of addition strategies.								
<b>4-8</b>	<b>Add Three Numbers</b>	Students explain strategies for adding 3 numbers.	Students use <i>can</i> to explain strategies for adding 3 numbers.	<b>4-8</b>	add addend sum	explain order matter • counters • number cubes • <i>Number Line 0–20 Teaching Resource</i>	Application	1.OA.A.2 1.OA.B.3
<b>4-9</b>	<b>Find an Unknown Number in an Addition Equation</b>	Students use different strategies to determine an unknown value in an addition equation.	Students use the conjunctions <i>and/or</i> to identify different strategies to determine an unknown value.	<b>4-9</b>	add addend sum unknown	belong position • counters • <i>Number Bond 1 Teaching Resource</i> • <i>Number Cards 0–10</i> • <i>Number Cards 11–19</i> • <i>Number Line 0–20 Teaching Resource</i>	Conceptual Understanding	1.OA.D.8
<b>4-10</b>	<b>Understand the Equal Sign</b>	Students explain the meaning of the equal sign.	Students explain the meaning of the equal sign using the verb <i>have</i> .	<b>4-10</b>	add addend equal sign sum	represent similar • balance scales • connecting cubes • counters • <i>Number Line 0–20 Teaching Resource</i>	Conceptual Understanding, Procedural Skill	1.OA.D.7
<b>4-11</b>	<b>True Addition Equations</b>	Students determine whether an addition equation is true or false.	Students respond to whether an addition equation is true or false using <i>so</i> to express a logical consequence.	<b>4-11</b>	add addend equation sum	compare false true • counters • <i>Number Line 0–20 Teaching Resource</i> • <i>Ten-Frames Teaching Resource</i>	Conceptual Understanding, Procedural Skill	1.OA.D.7
<b>Unit Review</b>								
<b>Fluency Practice</b>								
<b>Unit Assessment</b>								
<b>Performance Task</b>								

**PACING:** 15 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b>  <b>Take the Last Counter</b> Explore basic subtraction facts and use strategies to play a simple game of Nim.										
5-1	Relate Counting to Subtraction	Understand (explain) that subtraction is a more efficient way of determining a difference.	Students use simple past tense verbs to relate counting to subtraction.	5-1	Math Terms difference subtract total	Academic Terms appears represent	• counters • <i>Number Cards 11–19 Teaching Resource</i>	• <i>number cubes</i> Conceptual Understanding	1.OA.C.5	
5-2	Count Back to Subtract	Count back on a number line to solve a subtraction equation.	Students use <i>is</i> to find differences by counting back on a number line.	5-2	number line subtract	describe different	• counters • <i>Number Cards 11–19 Teaching Resource</i>	• <i>number cubes</i> • <i>Number Line 0–20 Teaching Resource</i>	Conceptual Understanding Procedural Skill	1.OA.C.6
5-3	Count On to Subtract	Start with the change number (subtrahend) and count on to the total (minuend).	Students use the command form and <i>so</i> to describe finding differences by counting on using a number line.	5-3	difference number line subtract total	describe share	• counters • <i>Number Cards 11–19 Teaching Resource</i>	• <i>Number Line 0–20 Teaching Resource</i> • <i>number cubes</i>	Procedural Skill & Fluency	1.OA.C.6
5-4	Make a 10 to Subtract	Use the <i>make a 10</i> strategy to solve subtraction equations within 20.	Students use <i>then</i> to explain finding differences by making a 10.	5-4	subtract	observe remove	• counters • <i>Number Cards 11–19 Teaching Resource</i> • <i>number cubes</i>	• <i>Ten-Frames Teaching Resource</i>	Conceptual Understanding Procedural Skill	1.OA.C.6
5-5	Use Near Doubles to Subtract	Use <i>near doubles</i> and <i>doubles</i> to solve subtraction equations within 20.	Students use <i>more than</i> or <i>less than</i> to describe using near doubles and doubles in subtraction.	5-5	doubles subtract	make sense represent	• counters • <i>Number Cards 0–120 Teaching Resource</i>		Procedural Skill & Fluency	1.OA.C.6
5-6	Use Addition to Subtract	Use addition to subtract.	Students describe using addition to subtract using <i>so</i> .	5-6	subtract unknown addend	explain share	• counters • <i>Number Cards 0–10</i> • <i>Number Cards 11–19 Teaching Resources</i>	• <i>number cubes</i> • <i>Number Line 0–20 Teaching Resource</i>	Conceptual Understanding Procedural Skill	1.OA.B.4
<b>Math Probe: Showing Problems with Equations</b> Show problems with ten-frames, a number line and equations.										
5-7	Use Fact Families to Subtract	Make fact families relating the three numbers to addition and subtraction.	Students describe a known fact to write related facts using simple present tense.	5-7	fact family fact triangle related facts	idea relate	• counters • <i>Number Cards 0–10 Teaching Resource</i>	• <i>Number Cards 11–19 Teaching Resource</i> • <i>number cubes</i>	Conceptual Understanding	1.OA.C.6
5-8	Find an Unknown in a Subtraction Equation	Use different strategies to determine an unknown value in a subtraction equation.	Students use past tense to explain the use of strategies to find an unknown number in a subtraction equation.	5-8	subtract unknown	information present	• counters	• <i>Number Line 0–20 Teaching Resource</i>	Conceptual Understanding Procedural Skill	1.OA.D.8
5-9	True Subtraction Equations	Determine whether a subtraction equation is true or false.	Students use simple present tense to express whether a subtraction equation is true or false.	5-9	difference equal sign (=) equation	difference problem	• balance scale • connecting cubes • counters • <i>number cubes</i>	• <i>Number Cards 11–19</i> • <i>Number Line 0–20</i> • <i>Ten-Frames Teaching Resources</i>	Conceptual Understanding	1.OA.D.7

Unit Review  
Fluency Practice

Unit Assessment  
Performance Task

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b>  Shape Sudoku Use prior knowledge of shapes and color to complete mini-sudoku style puzzles.									
<b>6-1</b>	<a href="#">Understand Defining Attributes of Shapes</a>	Students describe defining attributes of 2-dimensional shapes.	Students describe defining attributes of 2-dimensional shapes using <i>are</i> and <i>has</i> .	Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.	<b>6-1</b>	<p><b>Math Terms</b></p> <ul style="list-style-type: none"> <li>2-dimensional (2-D) shape</li> <li>attribute</li> <li>closed</li> <li>defining attribute</li> <li>side</li> <li>vertex</li> </ul> <p><b>Academic Terms</b></p> <ul style="list-style-type: none"> <li>describe</li> <li>explain</li> </ul>	<ul style="list-style-type: none"> <li>4 straws of the same length and 2 straws of the same length but longer than the other 4 straws</li> <li>pattern blocks</li> </ul>	Conceptual Understanding	1.G.A.1
<b>6-2</b>	<a href="#">Understand Non-Defining Attributes</a>	Students describe attributes that do not define shapes. Students draw 2-dimensional shapes given defining and non-defining attributes.	Students use <i>has</i> and <i>are</i> to describe and draw 2-dimensional shapes given defining and non-defining attributes.	Students demonstrate self-awareness of personal strengths and areas of challenge in mathematics.	<b>6-2</b>	<p>2-dimensional (2-D) shape</p> <p>attribute</p> <p>closed</p> <p>defining attribute</p> <p>decide</p> <p>describe</p>	<ul style="list-style-type: none"> <li>attribute blocks</li> <li><i>Pattern Blocks 3 Teaching Resource</i></li> <li>poster board</li> </ul>	Conceptual Understanding	1.G.A.1
<b>Math Probe 2-Dimensional Shape Sort</b> Sort shapes to demonstrate understanding of triangle and rectangle attributes.									
<b>6-3</b>	<a href="#">Compose Shapes</a>	Students put together 2-dimensional shapes to create a composite shape.	Students use <i>using</i> to explain how to put together 2-dimensional shapes to create a composite shape.	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	<b>6-3</b>	<p>2-dimensional (2-D) shape</p> <p>consist</p> <p>describe</p>	<ul style="list-style-type: none"> <li><i>Pattern Blocks 3 Teaching Resource</i></li> <li>tangrams</li> </ul>	Conceptual Understanding	1.G.A.2
<b>6-4</b>	<a href="#">Build New Shapes</a>	Students create a new 2-dimensional composite shape from an existing composite shape.	Students describe how to create a new 2-dimensional shape from an existing composite shape using <i>cut</i> .	Students identify personal traits that make them good students, peers, and math learners.	<b>6-4</b>	<p>2-dimensional (2-D) shape</p> <p>consist</p> <p>predict</p>	<ul style="list-style-type: none"> <li><i>Pattern Blocks 3 Teaching Resource</i></li> <li>tangrams</li> </ul>	Conceptual Understanding	1.G.A.2
<b>6-5</b>	<a href="#">Understand Attributes of Solids</a>	Students describe attributes that define and do not define solids.	Students use <i>has</i> to describe attributes that define and do not define solids.	Students discuss the value of hearing different viewpoints and approaches to problem solving.	<b>6-5</b>	<p>3-dimensional (3-D) shape</p> <p>apex</p> <p>base</p> <p>defining attribute</p> <p>edge</p> <p>face</p> <p>rectangular prism</p> <p>describe</p> <p>observe</p>	<ul style="list-style-type: none"> <li>geometric solids (cones, cubes, cylinders, rectangular prisms, and spheres)</li> <li><i>Pattern Blocks 3 Teaching Resource</i></li> <li>real-life solids</li> </ul>	Conceptual Understanding	1.G.A.1
<b>6-6</b>	<a href="#">Build New Solids</a>	Students put together solids to create a composite solid shape. Students create a new solid composite shape from an existing solid composite shape.	Students use <i>can</i> to describe how to put together solids to create a composite solid shape from an existing solid composite shape.	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	<b>6-6</b>	<p>3-dimensional (3-D) shape</p> <p>rectangular prism</p> <p>consist</p> <p>explain</p>	<ul style="list-style-type: none"> <li>geometric solids (cones, cubes, cylinders, and rectangular prisms)</li> </ul>	Conceptual Understanding	1.G.A.2
<b>Unit Review</b>									
<b>Fluency Practice</b>									
<b>Unit Assessment</b>									
<b>Performance Task</b>									

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>Number Perfect Triangle</i> Apply problem-solving strategies while practicing addition facts to solve a puzzle.								
7-1	Represent and Solve Add To Problems	Students represent an add to situation with an equation when the two addends are known.	Students use <i>can</i> to apply their understanding of representing word problems when the two addends are known.	7-1	Math Terms addend, sum total, unknown word problem	Academic Terms affect observation	Application	1.OA.A.1
7-2	Represent and Solve More Add To Problems	Students represent an add to situation with an equation when the first or second addend is unknown.	Students use <i>if</i> to respond to add to situations in word problems when one addend is unknown.	7-2	addend sum total unknown word problem	describe explore	Application	1.OA.A.1
7-3	Represent and Solve Put Together Problems	Students represent a put together situation with an equation when the two addends are known.	Students describe how to solve addition word problems using simple present tense verbs.	7-3	addend part sum, unknown whole word problem	discuss information	Application	1.OA.A.1
7-4	Represent and Solve More Put Together Problems	Students represent a put together situation with an equation when both addends are unknown or when one addend is unknown.	Students solve addition word problems when one or both addends are unknown using <i>there is</i> and <i>there are</i> .	7-4	addend, part sum, unknown whole word problem	begin describe explain explore organize	Application	1.OA.A.1
<b>Math Probe Problems and Equations 1</b> Select an equation that shows the problems and explain why.								
7-5	Represent and Solve Addition Problems with Three Addends	Students represent an addition situation with an equation when there are three addends.	Students use <i>there</i> to explain solutions to addition word problems with three addends.	7-5	addend sum total unknown word problem	compare identify	Application	1.OA.A.2
7-6	Solve Addition Problems	Students represent and solve various addition problems.	Students use <i>is</i> and <i>are</i> when solving and explaining how to represent word problems.	7-6	addend, part sum, total unknown whole word problem	discuss explain select	Application	1.OA.A.1
<b>Unit Review</b>								
<b>Fluency Practice</b>								
<b>Unit Assessment</b>								
<b>Performance Task</b>								

## PACING: 12 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARDS
<b>Unit Opener Ignite</b> <i>Ignite</i> <b>Make Fifteen</b> Apply problem-solving strategies while practicing addition and subtraction facts.								
<b>8-1</b>	Represent and Solve Take From Problems	Students represent a take from situation with an equation when the difference is unknown.	Students use verbs to describe representing word problems with drawings and equations when the difference is unknown.	<b>8-1</b>	Math Terms difference part total unknown word problem	Academic Terms related represent  + connecting cubes + counters + Number Cards 0–10 Teaching Resource	Application	1.OA.A.1
<b>8-2</b>	Represent and Solve More Take From Problems	Students represent a take from situation with an equation when either the change or the total is unknown.	Students use verbs to describe representing word problems with drawings and equations when either the change or the total is unknown.	<b>8-2</b>	difference part total unknown word problem	describe explore  + connecting cubes + counters + Double Ten-Frames Teaching Resource	Application	1.OA.A.1
<b>8-3</b>	Represent and Solve Take Apart Problems	Students represent a take apart situation with an equation when the total is unknown.	Students use <i>there are</i> to explain the results of solving subtraction word problems when the total is unknown.	<b>8-3</b>	difference part, unknown whole word problem	discuss explain  + connecting cubes, counters + Double Ten-Frames + Number Bond 1 Teaching Resource	Application	1.OA.A.1
<b>Math Probe Problems and Equations 2</b> Use concrete materials to show the situation and solve the problem.								
<b>8-4</b>	Represent and Solve More Take Apart Problems	Students represent a take apart situation with an equation when both parts are unknown.	Students use present and past tense verbs to describe solutions to subtraction word problems when both parts are unknown.	<b>8-4</b>	difference part unknown whole word problem	discuss explain  + connecting cubes + counters + Number Line 0–20 Teaching Resource	Application	1.OA.A.1
<b>8-5</b>	Solve Problems Involving Subtraction	Students represent a take apart situation with an equation when one part is unknown.	Students describe solving subtraction word problems when one part is unknown using present tense verbs.	<b>8-5</b>	difference part, unknown whole word problem	discuss explain  + connecting cubes + counters + Number Line 0–20 Teaching Resource	Application	1.OA.A.1
<b>8-6</b>	Solve More Problems Involving Subtraction	Students represent and solve various subtraction problems.	Students describe solutions to a variety of subtraction word problems when either one part, both parts, or the whole is unknown using <i>so</i> .	<b>8-6</b>	difference part, total unknown; whole word problem	decide explain  + connecting cubes + counters + Double Ten-Frames Teaching Resource	Application	1.OA.A.1
<b>8-7</b>	Solve Problems Involving Addition and Subtraction	Students represent and solve various subtraction and addition problems.	Students use <i>is</i> and <i>are</i> to describe solutions to addition and subtraction word problems.	<b>8-7</b>	difference part total unknown whole word problem	describe discuss explain  + connecting cubes + counters + Double Ten-Frames Teaching Resource + Number Bond 1 Teaching Resource	Application	1.OA.A.1

 Unit Review  
 Fluency Practice

 Unit Assessment  
 Performance Task

PACING: 14 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Happy Race to 21</i> Use addition facts while playing a game.									
<b>9-1</b>	Use Mental Math to Find 10 More	Students use mental math to find 10 more of a given 2-digit number and explain their reasoning.	Students use <i>when</i> to explain their reasoning to find 10 more of a given 2-digit number using mental math.	Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.	<b>9-1</b>	<b>Math Terms</b> 2-digit number, addend, digit, equation, ones place value, sum, tens <b>Academic Terms</b> mental pattern	• base-ten blocks • number cubes	Conceptual Understanding	1.NBT.C.5
<b>Math Probe</b> <i>Number Chart Parts</i> Determine a missing number in a number chart with only two or three numbers shown.									
<b>9-2</b>	Represent Adding Tens	Students use place value to add 2-digit numbers and a multiple of 10.	Students use <i>is</i> to add 2-digit numbers and a multiple of 10 with place-value concepts using present tense verbs.	Students demonstrate thoughtful reflection through identifying the causes of challenges and successes while completing a mathematical task.	<b>9-2</b>	2-digit number, addend, digit, equation, ones place value, sum, tens, pattern	• base-ten blocks • number cubes	Procedural Skill & Fluency	1.NBT.C.4
<b>9-3</b>	Represent Adding Tens and Ones	Students use place value and counting on to add 2-digit and 1-digit numbers, without regrouping.	Students use <i>has</i> to describe adding the ones of a 2-digit number to the ones of a 1-digit number to find the sum.	Students recognize personal strengths through thoughtful self-reflection.	<b>9-3</b>	2-digit number, addend, digit, equation, ones place value, sum, tens, change, explain	• base-ten blocks	Procedural Skill & Fluency	1.NBT.C.4
<b>9-4</b>	Decompose Addends to Add	Students use decomposition and place value to add 2-digit and 2-digit numbers.	Students describe decomposing numbers by place value to add 2-digit numbers using verbs.	Students recognize and work to understand the emotions of others and practice empathetic responses.	<b>9-4</b>	2-digit number, addend, digit, equation, ones place value, sum, tens, break apart, explore	• base-ten blocks • Number Cards 0–10 Teaching Resource • number cubes	Procedural Skill & Fluency	1.NBT.C.4
<b>9-5</b>	Use an Open Number Line to Add within 100	Students use an open number line to add 2-digit and 2-digit numbers, without regrouping.	Students use <i>them</i> to explain using a number line to add 2-digit numbers.	Students identify a problem, use creativity to execute problem-solving steps, and identify multiple solutions.	<b>9-5</b>	2-digit number, addend, digit, equation, ones place value, open number line, sum, tens, explain, tool	• Blank Open Number Lines Teaching Resource • counters	Procedural Skill & Fluency	1.NBT.C.4
<b>9-6</b>	Decompose to Add on an Open Number Line	Students use an open number line to add 2-digit and 1-digit numbers, with regrouping.	Students describe the results of using an open number line to add numbers using <i>is</i> and <i>one</i> .	Students set a focused mathematical goal and make a plan for achieving that goal.	<b>9-6</b>	2-digit number, addend, digit, equation, ones place value, sum, tens, describe, notice	• base-ten blocks • Blank Open Number Lines Teaching Resource	Procedural Skill & Fluency	1.NBT.C.4
<b>9-7</b>	Regroup to Add	Students use regrouping to add 2-digit and 1-digit numbers.	Students describe how to regroup to add 2-digit numbers and give reasons why they used these strategies.	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	<b>9-7</b>	2-digit number, addend, digit, equation, ones place value, open number line, regroup, sum, tens, explain, strategies	• base-ten blocks	Procedural Skill & Fluency	1.NBT.C.4
<b>9-8</b>	Add 2-Digit Numbers	Students use regrouping to add 2-digit and 2-digit numbers.	Students use present and past tense verbs to explain regrouping to solve addition equations with 2-digit numbers.	Students demonstrate self-awareness of personal strengths and areas of challenge in mathematics.	<b>9-8</b>	2-digit number, addend, digit, equation, ones place value, regroup, sum, tens, explain	• base-ten blocks	Procedural Skill & Fluency	1.NBT.C.4

## PACING: 8 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>Unit Opener</i> Three Numbers in Order Explore a pattern when working with sums based on three consecutive numbers.										
<b>10-1</b>	Represent and Solve Compare Problems	Students represent and solve a compare situation when the difference is unknown.	Students describe the solutions of comparison situations with the difference unknown using simple present tense verbs.	Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.	<b>10-1</b>	<b>Math Terms</b> addend compare difference equation unknown word problem	<b>Academic Terms</b> different observation	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>counters</li> <li><i>Double Ten-Frames Teaching Resource</i></li> <li><i>Number Line 0–20 Teaching Resource</i></li> </ul>	Application	1.OA.A.1
<b>10-2</b>	Represent and Solve Compare Problems Using Addition	Students represent and solve a compare situation when the greater quantity is unknown.	Students use present tense in greater number unknown comparison problems.	Students develop and execute a plan, including selecting tools for mathematical problem solving.	<b>10-2</b>	addend compare equation sum unknown word problem	apparently represent	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>counters</li> <li><i>Double Ten-Frames Teaching Resource</i></li> <li><i>Number Line 0–20 Teaching Resource</i></li> </ul>	Application	1.OA.A.1
<b>Math Probe</b> <i>Showing Addition and Subtraction</i> Choose an addition or subtraction equation for the situation and show why.										
<b>10-3</b>	Represent and Solve More Compare Problems	Students represent and solve a compare situation when the lesser quantity is unknown.	Students use <i>more</i> and <i>fewer</i> to describe comparison situations with the lesser number unknown.	Students explore taking different perspectives on approaches to problem solving.	<b>10-3</b>	addend compare difference equation sum unknown word problem	consider provided purpose represent	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>counters</li> <li><i>Double Ten-Frames Teaching Resource</i></li> <li><i>Number Line 0–20 Teaching Resource</i></li> </ul>	Application	1.OA.A.1
<b>10-4</b>	Solve Compare Problems Using Addition and Subtraction	Students represent and solve various compare problems.	Students use <i>or to</i> describe comparison situations with addition or subtraction.	Students identify personal traits that make them good students, peers, and math learners.	<b>10-4</b>	addend compare difference equation sum unknown word problem	continued displayed scoreboard	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>counters</li> <li><i>Double Ten-Frames Teaching Resource</i></li> <li><i>Number Line 0–20 Teaching Resource</i></li> </ul>	Application	1.OA.A.1
<b>Unit Review</b>										
<b>Fluency Practice</b>										
<b>Unit Assessment</b>										
<b>Performance Task</b>										

**PACING: 10 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>Activate</i> Put It All Together Use place value patterns to complete a number chart.										
11-1	Use Mental Math to Find 10 Less	Students use mental math to find 10 less than a given 2-digit number and explain their reasoning.	Students use the command form of verbs to find a 10 less than a given 2-digit number with mental math.	Students identify and discuss the emotions experienced during math learning.	11-1	<b>Math Terms</b> 2-digit number difference digit equation ones place value tens	<b>Academic Terms</b> pattern realize relate	+ counters + <i>Number Cards 0–120</i> Teaching Resource + <i>Number Chart 1–100</i> Teaching Resource	Conceptual Understanding	1.NBT.C.5
11-2	Represent Subtracting Tens	Students use place value to subtract a multiple of 10 from larger multiples of 10.	Students use <i>is</i> , <i>are</i> , and <i>can</i> to explain how to subtract multiples of 10 from larger multiples of 10 using place value concepts.	Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.	11-2	difference equation ones place value tens	imply information packages represent	+ base-ten blocks + <i>Tens Cards</i> Teaching Resource	Conceptual Understanding	1.NBT.C.6
11-3	Subtract Tens	Students use a number chart and an open number line to subtract a multiple of 10 from a larger multiple of 10.	Students use <i>can</i> to explain subtracting a multiple of 10 from a larger multiple of 10.	Students explore taking different perspectives on approaches to problem solving.	11-3	difference equation ones open number line place value tens	column decreasing relates	+ <i>Blank Open Number Lines</i> Teaching Resource + <i>Number Chart 1–100</i> Teaching Resource + <i>Tens Cards</i> Teaching Resource	Conceptual Understanding	1.NBT.C.6
11-4	Use Addition to Subtract Tens	Students use a known addition equation to find the difference of a multiple of 10 from larger multiples of 10 and explain their reasoning.	Students use <i>so</i> to explain their reasoning when finding the difference of a multiple of 10 from larger multiples of 10.	Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.	11-4	difference equation ones place value tens total	operation related represent	+ <i>Number Bond 1</i> Teaching Resource + <i>Number Chart 1–100</i> Teaching Resource	Conceptual Understanding	1.NBT.C.6
<b>Math Probe: Showing Problems with Tens</b> Use a number chart or base-ten blocks to determine solutions to word problems.										
11-5	Explain Subtraction Strategies	Students explain the strategies they used to determine the difference of a multiple of 10 from larger multiples of 10.	Students use both present and past tense verbs to explain the strategies they used to subtract multiples of 10.	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	11-5	difference equation ones tens	relates represents	+ base-ten blocks + <i>Blank Open Number Lines</i> Teaching Resource + <i>Number Bond 1</i> Teaching Resource + <i>Number Chart 1–100</i> Teaching Resource + <i>Tens Cards</i> Teaching Resource	Conceptual Understanding	1.NBT.C.5

**Unit Review**  
**Fluency Practice**

**Unit Assessment**  
**Performance Task**

PACING: 16 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>How Long Can You Build It?</i> Build a train with connecting cubes and determine the length of the train.								
12-1	Compare and Order Lengths	Students compare and order objects by length.	Students use <i>is</i> and comparative adjectives to compare and order objects by length.	12-1	Math Terms compare, length, longer, longest, shorter, shortest	Academic Terms order, process	+ assorted objects	Conceptual Understanding, Procedural Skill 1.MD.A.1
12-2	More Ways to Compare Lengths	Students compare the lengths of 2 objects by comparing them to a third object.	Students use <i>longer than</i> and <i>shorter than</i> to compare lengths of two objects to a third object.	12-2	compare, longer, longest, shorter, shortest	arrangement, purpose	+ assorted objects (school supplies)	Conceptual Understanding, Procedural Skill 1.MD.A.1
12-3	Strategies to Measure Lengths	Students determine the length of an object using same-size length units.	Students use <i>is</i> and <i>long</i> to describe the length of an object as a number of length units.	12-3	measure, unit	accurate, challenging, overlap	+ connecting cubes + counters + paper clips + school supplies	Conceptual Understanding, Procedural Skill 1.MD.A.2
<b>Math Probe</b> <i>How Long Is the Rope?</i> Students interpret the measure of length for a given piece of rope.								
12-4	More Strategies to Measure Lengths	Students determine the length of an object using two different sized units and compare the number of units.	Students use <i>so</i> to explain why different-length units give different measurements.	12-4	measure, unit	alignment, arrangement	+ connecting cubes + large paper clips	Conceptual Understanding, Procedural Skill 1.MD.A.2
12-5	Tell Time to the Hour	Students tell time using analog and digital clocks and write time to the hour.	Students articulate time using analog and digital clocks and write time to the hour using <i>is</i> .	12-5	analog / digital clock, hour, hour hand, minute, minute hand, o'clock	different, represent, similar	+ brad clips + cardstock paper (2 colors) + paper plates + student clocks + Clocks Teaching Resource + Number Cards 0–10, Number Cards 11–19 Teaching Resources	Conceptual Understanding, Procedural Skill 1.MD.B.3
12-6	Tell Time to the Half Hour	Students tell time using analog and digital clocks and write time to the half hour.	Students articulate time using analog and digital clocks and write time to the half hour using <i>is</i> .	12-6	analog / digital clock, half hour, half past, hour / minute hand, minute	displaying, represent	+ Clocks Teaching Resource + Number Cards 0–10 Teaching Resource + student clocks	Conceptual Understanding, Procedural Skill 1.MD.B.3
12-7	Organize Data	Students organize data with up to three categories.	Students use <i>by</i> to describe the ways items are grouped into categories.	12-7	data	attribute, categorize, organize	+ various classroom objects	Conceptual Understanding, Procedural Skill, Application 1.MD.C.4
12-8	Represent Data	Students organize data using a tally chart to record the total number of objects in each category.	Students describe recorded data in tally charts using simple past tense verbs.	12-8	data, tally chart, tally marks	important, reason, title	+ brown paper bags + connecting cubes + counters + Tally Chart 2 Teaching Resource + unit cubes	Conceptual Understanding, Procedural Skill, Application 1.MD.C.4
12-9	Interpret Data	Students organize data using a tally chart and interpret data by answering "how many?" questions.	Students explain organized data in tally charts to answer "how many?" questions using verbs.	12-9	data, tally chart, tally mark	category, organize, represent, scenario	+ brown paper bags + connecting cubes + counters + Tally Chart 2 Teaching Resource + unit cubes	Conceptual Understanding, Procedural Skill, Application 1.MD.C.4
12-10	Solve Problems Involving Data	Students solve problems involving comparisons by interpreting data.	Students use simple and past tense verbs to explain data in tally charts to solve comparison problems.	12-10	data, tally chart, tally mark	occupy, purpose	+ brown paper bags + connecting cubes + counters + Tally Chart 2 Teaching Resource + unit cubes	Conceptual Understanding, Procedural Skill, Application 1.MD.C.4

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Cutting Squares in Half</i> Partition squares into halves and quarters.									
13-1	Understand Equal Shares	Students identify equal shares of circles, rectangles, and squares.	Students use <i>have</i> and <i>are</i> to describe the shares of partitioned circles and rectangles.	13-1	Math Terms equal equal shares whole	Academic Terms compare relate	- <i>Pattern Blocks 3</i> Teaching Resource	Conceptual Understanding, Procedural Skill & Fluency	1.G.A.3
13-2	Partition Shapes into Halves	Students partition circles, rectangles, and squares into 2 shares and identify the shares as <i>halves</i> or <i>half of</i> .	Students use present tense verbs to explain each share as <i>half of the whole</i> or <i>two halves of the whole</i> .	13-2	equal shares half (halves) half of	different explain	- <i>Pattern Blocks 3</i> Teaching Resource	Conceptual Understanding, Procedural Skill & Fluency	1.G.A.3
13-3	Partition Shapes into Fourths	Students partition circles, rectangles, and squares into 4 shares and identify the shares as <i>fourths</i> , <i>fourth of</i> , or <i>quarter of</i> .	Students use <i>there are</i> to identify <i>fourths</i> , <i>fourths of</i> , <i>quarters of</i> , or <i>four quarters of the whole</i> .	13-3	equal shares fourth fourth of quarter quarter of	compare explain	- <i>Pattern Blocks 3</i> Teaching Resource	Conceptual Understanding, Procedural Skill & Fluency	1.G.A.3
<b>Math Probe</b> <i>Partitioning Into Fourths</i> Decide if each notebook has been partitioned into fourths.									
13-4	Describe the Whole	Students count the number of shares in an equally partitioned shape and describe the whole as <i>two of</i> , or <i>four of</i> the shares.	Students use <i>there are</i> to describe the parts of a whole.	13-4	equal shares fourth half quarter whole	combine describe	- <i>Pattern Blocks 3</i> Teaching Resource	Conceptual Understanding, Procedural Skill & Fluency	1.G.A.3
13-5	Describe Halves and Fourths of Shapes	Students partition identical shapes into halves and fourths to understand that more equal shares create smaller shares.	Students explain that more equal shares create smaller shares using <i>has</i> .	13-5	equal shares fourth half quarter	describe notice	- <i>Pattern Blocks 3</i> Teaching Resource	Conceptual Understanding, Procedural Skill & Fluency	1.G.A.3
<b>Unit Review</b>									
<b>Fluency Practice</b>									
<b>Unit Assessment</b>									
<b>Performance Task</b>									

## PACING: 11 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b>  The School Fair Explore different ways to make 30.									
1-1	Math Is Mine	Students describe how math is used in their daily lives and in the lives of others. They tell their math story.	Students talk about how they use math while answering <i>Wh-</i> questions.	Students describe their feelings and attitudes toward mathematics.	1-1	Math Terms hobby story Academic Terms strength positive	<ul style="list-style-type: none"> <li>• blank paper</li> <li>• crayons, markers, or colored pencils</li> </ul>	Conceptual Understanding	1.NBT.B.3
1-2	Math Is Exploring and Thinking	Students explore options for understanding a problem and strategies for solving it. Students relate quantities in a problem.	Students talk about different approaches for understanding a problem and strategies for solving it while answering <i>Wh-</i> questions and using <i>another way</i> as needed and able.	Students recognize emotions that affect their behaviors negatively during math class.	1-2	addends quantity describe	<ul style="list-style-type: none"> <li>• <i>Number Cards 0-10 Teaching Resource</i></li> </ul>	Conceptual Understanding	1.OA.A.2
1-3	Math Is In My World	Students use mathematics to represent real-world situations and problems.	Students explain and show real-world phenomena with mathematical models while answering <i>Wh-</i> questions and using <i>notice and can</i> as needed.	Students show appreciation for the different perspectives of their classmates.	1-3	equation model represent	<ul style="list-style-type: none"> <li>• base-ten blocks</li> <li>• <i>Number Chart 1-100 Teaching Resource</i></li> </ul>	Conceptual Understanding	1.NBT.C.6
1-4	Math Is Explaining and Sharing	Students explore ways to construct arguments to support their thinking. Students respond to the ideas and arguments of others.	Students discuss arguments to support their thinking while answering <i>Wh-</i> and <i>Yes/No</i> questions and using <i>thinking as needed</i> .	Students practice showing respect for classmates as they share ideas and thinking.	1-4	argument precise explain	<ul style="list-style-type: none"> <li>• <i>Number Cards 0-10 Teaching Resource</i></li> </ul>	Conceptual Understanding	1.NBT.C.4
1-5	Math Is Finding Patterns	Students explore strategies for uncovering patterns and for using patterns to solve problems.	Students discuss strategies for uncovering patterns and for using patterns to solve problems while answering <i>Wh-</i> and <i>Yes/No</i> questions and using the verb <i>help</i> and the adjective <i>helpful</i> as needed.	Students practice self-control as they learn to take turns when sharing ideas with a partner or in a group.	1-5	pattern relationship efficient		Conceptual Understanding	1.OA.C.6
1-6	Math Is Ours	Students discuss and decide on classroom norms of interaction for a productive math learning environment.	Students talk about the skills, behaviors, and mindsets that contribute to a productive learning environment while answering <i>Wh-</i> and <i>Yes/No</i> questions and using the words <i>helpful</i> , <i>focused</i> , and <i>respectful</i> as needed.	Students make decisions about classroom norms for working productively with classmates.	1-6	pattern quantity norms respectful	<ul style="list-style-type: none"> <li>• markers, crayons, or colored pencils</li> <li>• poster-sized paper</li> </ul>	Conceptual Understanding	1.NBT.A.1

## Unit Review

## Fluency Practice

**PACING: 9 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS		
<b>Unit Opener</b> <i>Numbers</i> <b>Different Ways to Balance</b> Explore how to balance a scale using one-pound and ten-pound weights and represent solutions with base-ten blocks.									
2-1	<b>Understand Hundreds</b>	Students explain hundreds with regard to place value – 100 is one hundred or 10 tens, 200 is two hundreds or 20 tens, and so on.	Students explain their understanding of 100 as 10 groups of ten using the term <i>each</i> .	Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.	2-1	<b>Math Terms</b> hundreds tens	<b>Academic Terms</b> in common relate to	<ul style="list-style-type: none"> <li>base-ten blocks</li> </ul>	Conceptual Understanding
2-2	<b>Understand 3-Digit Numbers</b>	Students explain what the digits in a 3-digit number represent.  Students represent 3-digit numbers.	Students explain that the digits of a 3-digit number represent amounts of hundreds, tens, and ones and represent 3-digit numbers using the term <i>notice</i> .	Students recognize personal strengths through thoughtful self-reflection.	2-2	base-ten blocks digit ones place-value chart	decide explanation	<ul style="list-style-type: none"> <li>3-Digit Numbers Teaching Resource</li> <li>base-ten blocks</li> </ul>	Conceptual Understanding
2-3	<b>Read and Write Numbers to 1,000</b>	Students read and write numbers to 1,000.	Students discuss and write 3-digit numbers using the term <i>different ways</i> .	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	2-3	decompose expanded form standard form word form	in common wonder	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>notecards</li> </ul>	Conceptual Understanding, Procedural Skill and Fluency
2-4	<b>Decompose 3-Digit Numbers</b>	Students decompose 3-digit numbers by grouping the hundreds, tens, and ones in different ways.	Students identify and decompose 3-digit numbers and justify different ways to decompose the same number using the word <i>group</i> .	Students break down a situation to identify the problem at hand.	2-4	decompose place value	apply explanation	<ul style="list-style-type: none"> <li>base-ten blocks</li> </ul>	Conceptual Understanding
<b>Math Probe</b> <i>Building Numbers</i> Compose and decompose numbers based on different place-value combinations, with regrouping as needed.									
2-5	<b>Compare 3-Digit Numbers</b>	Students use words and symbols to compare 3-digit numbers.	Students compare two 3-digit numbers using the verb <i>compare</i> .	Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.	2-5	compare equal to (=) greater than (>) less than (<)	relationship true	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>Number Cards 0–10 Teaching Resource</li> </ul>	Conceptual Understanding
<b>Unit Review</b> <b>Fluency Practice</b>									
<b>Unit Assessment</b> <b>Performance Task</b>									

**PACING: 12 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>Addition Patterns</i> Investigate an addition table, search for patterns, and students will explain what they find.										
3-1	Counting Patterns	Students describe patterns when counting by 1s within 1,000.	Students discuss patterns when counting by 1s within 1,000 using <i>notice</i> and <i>counting</i> .	Students reflect on and describe the logic and reasoning used to make a mathematical decision or conclusion.	3-1	Math Terms column pattern row	Academic Terms compare in common	<ul style="list-style-type: none"> <li>counters</li> <li><i>Number Cards 0–10 Teaching Resource</i></li> <li><i>Number Chart 201–300 Teaching Resource</i></li> <li><i>Number Chart 401–500 Teaching Resource</i></li> </ul>	Procedural Skill & Fluency	2.NBT.A.2
3-2	Patterns When Skip Counting by 5s	Students skip count by 5s within 1,000.	Students explain patterns when skip counting by 5s while answering simple <i>Wh-</i> questions and using the comparative adjective <i>quicker</i> .	Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.	3-2	skip count	in common relate to	<ul style="list-style-type: none"> <li><i>Number Chart 1–100 Teaching Resource</i></li> </ul>	Procedural Skill & Fluency	2.NBT.A.2
3-3	Patterns When Skip Counting by 10s and 100s	Students skip count by 10s and 100s within 1,000.	Students identify and describe patterns when skip counting by 10s and 100s using <i>notice</i> , <i>similar</i> , and <i>different</i> .	Students set learning goals and initiate work on tasks to accomplish their goals.	3-3	skip count	apply relate to	<ul style="list-style-type: none"> <li><i>Number Chart 1–100 Teaching Resource</i></li> <li>number cubes</li> </ul>	Procedural Skill & Fluency	2.NBT.A.2
<b>Math Probe</b> <i>Counting by 1s, 5s, and 10s</i> Gather data on students' understanding of counting by 1s, 5s, and 10s.										
3-4	Understand Even and Odd Numbers	Students determine if the number of objects in a group is even or odd.	Students discuss if a number of objects in a group is even or odd using <i>because</i> .	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	3-4	even odd	compare wonder	<ul style="list-style-type: none"> <li>counters</li> <li><i>Number Cards 0–10 Teaching Resource</i></li> </ul>	Conceptual Understanding	2.OA.C.3
3-5	Addition Patterns	Students write an equation to express an even number as a sum of two equal addends.	Students explain why a sum is even or odd using <i>because</i> .	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	3-5	doubles near doubles	previous useful	<ul style="list-style-type: none"> <li>connecting cubes</li> </ul>	Conceptual Understanding	2.OA.C.3
3-6	Patterns with Arrays	Students use skip counting to find the total number of objects in an array.	Students explain how to skip count to find the total number of objects in an array using the verb <i>arrange</i> .	Students exchange ideas for completing a mathematical task with a peer and reflect on the value of their similarities and differences.	3-6	array	previous specific	<ul style="list-style-type: none"> <li>counters</li> <li>paper clips</li> </ul>	Conceptual Understanding	2.OA.C.4
3-7	Use Arrays to Add	Students use arrays to find the sum of equal addends.	Students explain how using arrays and repeated addition can help in finding the sum of equal addends using <i>can</i> and academic vocabulary such as <i>represent</i> , <i>repeated</i> , and <i>determine</i> .	Students identify and discuss the emotions experienced during math learning.	3-7	repeated addition	relationship useful	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>counters</li> </ul>	Conceptual Understanding	2.OA.C.4

# UNIT 4 PLANNER

## Meanings of Addition and Subtraction

**FOCUS QUESTION:**  
How can I represent and solve addition and subtraction word problems?

**PACING: 16 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>Up and Down</i> Play a strategy game that involves counting up, counting down, addition, and subtraction.								
4-1	Represent and Solve Add To Problems	Students represent and solve Add To problems.	Students discuss Add To problems using the verbs <i>matter</i> and <i>belong</i> .	4-1	Math Terms addend part-part-whole mat unknown	Academic Terms decide describe	Application	2.OA.A.1
4-2	Represent and Solve Take From Problems	Students represent and solve Take From problems.	Students talk about Take From problems using the verb <i>know</i> .	4-2	bar diagram	solution useful	Application	2.OA.A.1
4-3	Solve Two-Step Add To and Take From Problems	Students solve two-step Add To and Take From problems.	Students discuss two-step problems using the verbs <i>connect</i> and <i>include</i> .	4-3	sum	connect quantities	Application	2.OA.A.1
4-4	Represent and Solve Put Together Problems	Students represent and solve Put Together problems.	Students talk about representing and solving Put Together problems using <i>useful</i> and <i>help</i> .	4-4	unknown	relate represent	Application	2.OA.A.1
4-5	Represent and Solve Take Apart Problems	Students represent and solve Take Apart problems.	Students talk about representing and solving Take Apart problems with the verb <i>using</i> .	4-5	unknown	calculation check	Application	2.OA.A.1
4-6	Solve Two-Step Put Together and Take Apart Problems	Students solve two-step Put Together and Take Apart problems.	Students discuss two-step problems using the verb <i>find</i> .	4-6	unknown	necessary represent	Application	2.OA.A.1
4-7	Represent and Solve Compare Problems	Students represent and solve Compare problems.	Students discuss how to represent and solve Compare problems using the terms <i>useful</i> , <i>use</i> , and <i>know</i> .	4-7	compare	organize tools	Application	2.OA.A.1
4-8	Represent and Solve More Compare Problems	Students represent and solve Compare problems.	Students discuss how to solve Compare problems using verbs <i>use</i> , <i>find</i> , and <i>know</i> .	4-8	compare	apply solve	Application	2.OA.A.1
<b>Math Probe</b> <i>Addition and Subtraction Equations</i> Students solve a problem using a strategy of their choice.								
4-9	Solve Two-Step Problems with Comparison	Students solve two-step problems involving comparison.	Students talk about solving two-step problems using words such as <i>first</i> and <i>next</i> .	4-9	compare	decide make sense	Application	2.OA.A.1
4-10	Solve Two-Step Problems Using Addition and Subtraction	Students solve two-step problems using addition and subtraction.	Students discuss solving two-step problems using the words <i>know</i> , <i>find</i> , <i>represent</i> , and <i>helpful</i> .	4-10	unknown	plan quantities	Application	2.OA.A.1

**Unit Review**  
**Fluency Practice**

## PACING: 16 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>Corner Sums in Squares</i> Explore addition patterns on a number chart to promote thinking about ways to add 2-digit numbers.								
5-1	Strategies to Add Fluently within 20	Students add fluently within 20.	Students discuss how to add fluently within 20 while answering <i>Wh-</i> questions.	5-1	Math Terms addend count on	Academic Terms represent strategies	Conceptual Understanding, Procedural Skill & Fluency	2.OA.B.2
5-2	More Strategies to Add Fluently within 20	Students add fluently within 20.	Students discuss what they understand about doubles and near doubles facts using the verb <i>notice</i> .	5-2	doubles near doubles	explanation wonder	Conceptual Understanding, Procedural Skill & Fluency	2.OA.B.2
5-3	Represent Addition with 2-Digit Numbers	Students represent addition of 2-digit numbers to find the sum.	Students explain how to add 2-digit numbers to find the sum of an equation while answering <i>Wh-</i> and Yes/No questions and using the term <i>regroup</i> .	5-3	regroup	explore relationship	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.5
5-4	Use Properties to Add	Students understand that addends added in any order have the same sum.	Students explain why addends can be added in any order using the term <i>the same</i> .	5-4	addend	represent strategy	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.5
5-5	Decompose Two Addends to Add	Students decompose two addends to add.	Students explain how to decompose two addends using <i>can</i> , <i>could</i> , and <i>would</i> .	5-5	decompose friendly numbers partial sums place value	compare related	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.5
5-6	Use a Number Line to Add	Students use a number line to add.	Students explain how to use a number line to add while answering <i>Wh-</i> questions and using modals such as <i>should</i> and <i>would</i> .	5-6	number line	arrange represent	Conceptual Understanding, Procedural Skill & Fluency	2.MD.B.6
5-7	Decompose One Addend to Add	Students decompose one addend to add.	Students explain different ways to decompose one addend to add, using the term <i>another way</i> .	5-7	decompose number line	compare decide	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.5
5-8	Adjust Addends to Add	Students adjust addends to add.	Students explain how to adjust addends to add within 100 while answering <i>Wh-</i> questions.	5-8	adjust friendly numbers	check relate to	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.5
<b>Math Probe Addition Strategies</b> Determine whether a given strategy is a correct approach to add two 2-digit numbers.								
5-9	Add More Than Two Numbers	Students add up to four 2-digit numbers.	Students explain how to add up to four 2-digit addends while answering <i>Wh-</i> questions and using the term <i>first</i> when applicable.	5-9	adjust decompose	arrange plan	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.6
5-10	Solve One- and Two-Step Problems Using Addition	Students solve one- and two-step addition word problems.	Students discuss solving one- and two-step addition word problems while answering <i>Wh-</i> and Yes/No questions.	5-10	adjust decompose	check information related to	Application	2.OA.A.1

## Unit Review

## Fluency Practice

## Unit Assessment

## Performance Task

**PACING: 16 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>Anchor</i> Same Difference: Explore how age differences stay the same over time. Relate this to a subtraction equation.								
<b>6-1</b>	Strategies to Subtract Fluently within 20	Students subtract fluently within 20.	Students discuss how to subtract fluently within 20 while answering <i>Wh-</i> and Yes/No questions.	<b>6-1</b>	Math Terms count back count on	Academic Terms different prefer • Number Cards 0–10 • number cubes • Number Line 0–20	Conceptual Understanding, Procedural Skill and Fluency	2.OA.B.2
<b>6-2</b>	More Strategies to Subtract Fluently within 20	Students subtract fluently within 20.	Students discuss more strategies to subtract fluently within 20 using the verbs <i>make</i> and <i>use</i> .	<b>6-2</b>	decompose	process represent • Number Bond 1 • Number Cards 0–10 • Number Cards 11–19 • number cubes • Number Line 0–20 • Ten-Frames	Conceptual Understanding, Procedural Skill and Fluency	2.OA.B.2
<b>6-3</b>	Represent Subtraction with 2-Digit Numbers	Students represent and solve 2-digit subtraction equations that require no regrouping.	Students explain how to solve 2-digit subtraction equations without regrouping while answering <i>Wh-</i> questions.	<b>6-3</b>	difference	explain information • base-ten blocks • Blank Open Number Lines • Number Chart 1–100	Conceptual Understanding, Procedural Skill and Fluency	2.NBT.B.5
<b>6-4</b>	Represent 2-Digit Subtraction with Regrouping	Students represent and solve 2-digit subtraction equations that require regrouping.	Students explain how to solve 2-digit subtraction equations with regrouping while answering <i>Wh-</i> questions.	<b>6-4</b>	regroup	check relate • base-ten blocks • Number Chart 1–100	Conceptual Understanding, Procedural Skill and Fluency	2.NBT.B.5
<b>6-5</b>	Use a Number Line to Subtract	Students use a number line to subtract.	Students talk about how to use a number line to subtract while answering <i>Wh-</i> questions.	<b>6-5</b>	number line	represent similar • Number Cards 11–19 • number cubes • Number Line and Bars (Subtraction)	Conceptual Understanding, Procedural Skill and Fluency	2.MD.B.6
<b>6-6</b>	Decompose Numbers to Subtract	Students decompose one number by place value to subtract 2-digit numbers.	Students talk about decomposing by place value to subtract while using the term <i>difference</i> .	<b>6-6</b>	decompose place value	argument compare • Blank Open Number Line • Decomposition Boxes and Arrows	Conceptual Understanding, Procedural Skill and Fluency	2.NBT.B.5
<b>6-7</b>	Adjust Numbers to Subtract	Students adjust numbers to subtract.	Students explain how to adjust numbers to subtract using <i>must</i> .	<b>6-7</b>	adjust friendly numbers	check compare • paper and pencil	Conceptual Understanding, Procedural Skill and Fluency	2.NBT.B.5
<b>Math Probe Subtraction Strategies</b> Students determine if a given strategy is a correct approach to perform 2-digit subtraction.								2.NBT.B.5
<b>6-8</b>	Relate Addition to Subtraction	Students use addition to solve 2-digit subtraction equations.	Students explain how to use addition to solve 2-digit subtraction equations while answering <i>Wh-</i> questions.	<b>6-8</b>	related facts	different relate • index cards • number cubes • Part-Part-Whole Mat	Application	
<b>6-9</b>	Solve One-Step Problems Using Subtraction	Students solve one-step word problems within 100.	Students discuss solving one-step word problems within 100 while answering <i>Wh-</i> questions.	<b>6-9</b>	adjust decompose	make sense require • base-ten blocks • Blank Open Number Lines	Application	2.OA.A.1
<b>6-10</b>	Solve Two-Step Problems Using Subtraction	Students solve two-step word problems within 100.	Students talk about solving two-step word problems using <i>would</i> and <i>could</i> .	<b>6-10</b>	adjust decompose	information represent • Number Cards 20–100 • number cubes	Application	2.OA.A.1

**Unit Review**

**Fluency Practice**

**Unit Assessment**

**Performance Task**

**PACING: 17 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>Which Path Is the Shortest?</i> Students develop ways to use nonstandard measurement concepts to determine which path is the shortest.								
7-1	Measure Length with Inches	Students measure the length of objects in inches.	Students talk about measuring the length of objects in inches using the term <i>one end</i> .	7-1	<b>Math Terms</b> inch length unit	<b>Academic Terms</b> conclude determine + <i>Inch Ruler Teaching Resource</i> + <i>Number Cards 0–10 Teaching Resource</i>	Procedural Skill and Fluency	2.MD.A.1
7-2	Measure Length with Feet and Yards	Students measure the length of objects in feet and yards.	Students explain how to measure the length of objects in feet and yards using <i>could</i> , <i>should</i> , and <i>would</i> .	7-2	foot/feet yard yardstick	describe explain + <i>Inch Ruler Teaching Resource</i> + <i>Yard Measuring Tape Teaching Resource</i>	Procedural Skill and Fluency	2.MD.A.1
7-3	Compare Lengths Using Customary Units	Students determine the difference in length of two objects measured with the same unit.	Students talk about determining the difference in length of two objects measured with the same unit.	7-3	customary unit	compare determine + <i>Inch Ruler Teaching Resource</i> + <i>Yard Measuring Tape Teaching Resource</i>	Procedural Skill and Fluency	2.MD.A.4
7-4	Relate Inches, Feet, and Yards	Students explain the relationships between inches, feet, and yards.	Students talk about the relationships between inches, feet, and yards.	7-4	foot/feet inch yard	explain relate + <i>Inch Ruler Teaching Resource</i> + <i>Yard Measuring Tape Teaching Resource</i>	Conceptual Understanding, Procedural Skill and Fluency	2.MD.A.2
7-5	Estimate Length Using Customary Units	Students use everyday objects with lengths similar to inches and feet to estimate lengths.	Students explain how to use everyday objects with lengths similar to inches and feet to estimate length using <i>might</i> and <i>instead of</i> .	7-5	estimate	important useful + <i>connecting cubes</i> + <i>Inch Ruler Teaching Resource</i>	Conceptual Understanding	2.MD.A.3
7-6	Measure Length with Centimeters and Meters	Students measure the length of objects in centimeters and meters.	Students talk about measuring the length of objects in centimeters and meters.	7-6	centimeter meter meterstick	pattern previous + <i>Centimeter Ruler Teaching Resource</i> + <i>Meter Measuring Tape Teaching Resource</i>	Procedural Skill and Fluency	2.MD.A.1
7-7	Compare Lengths Using Metric Units	Students determine the difference in length of two objects measured with the same unit.	Students discuss determining the difference in length of two objects measured in the same unit with the verb <i>use</i> .	7-7	metric unit	compare process + <i>Centimeter Ruler Teaching Resource</i> + <i>Meter Measuring Tape Teaching Resource</i>	Procedural Skill and Fluency	2.MD.A.4
7-8	Relate Centimeters and Meters	Students explain the relationship between centimeters and meters.	Students talk about the relationship between centimeters and meters using <i>related</i> and <i>make more sense</i> .	7-8	centimeter meter	agree relate + <i>Centimeter Ruler Teaching Resource</i> + <i>Meter Measuring Tape Teaching Resource</i> + <i>Number Cards 0–10 Teaching Resource</i>	Conceptual Understanding, Procedural Skill and Fluency	2.MD.A.2
<b>Math Probe: Relating Measurement</b> Determine the unit used to measure objects.								
7-9	Estimate Length Using Metric Units	Students use everyday objects with lengths similar to centimeters and meters to estimate length.	Students explain how to use everyday objects to estimate length using <i>might</i> , <i>helpful</i> , and <i>make sense</i> .	7-9	estimate	sense useful + <i>Centimeter Ruler Teaching Resource</i> + <i>Meter Measuring Tape Teaching Resource</i>	Conceptual Understanding	2.MD.A.3
7-10	Solve Problems Involving Length	Students solve addition and subtraction word problems involving length.	Students talk about solving addition and subtraction problems involving length using <i>some</i> and <i>use</i> .	7-10	length	information strategy + <i>Number Chart 1–100 Teaching Resource</i> + <i>Yard Measuring Tape Teaching Resource</i>	Application	2.MD.B.5
7-11	Solve More Problems Involving Length	Students use number lines to solve addition and subtraction word problems involving length.	Students explain how to solve word problems involving length using <i>some</i> .	7-11	length	purpose similar + <i>Blank Number Lines 2 Teaching Resource</i> + <i>Centimeter Ruler Teaching Resource</i>	Application	2.MD.B.5, 2.MD.B.6

**Unit Review**

**Fluency Practice**

**Performance Task**

**Unit Assessment**

## PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener Ignite</b>  <i>How Many Coins?</i> Discover patterns related to coins.										
8-1	Understand the Values of Coins	Students identify the value of these U.S. coins: penny, nickel, dime, and quarter.	Students explain the values of U.S. coins while answering <i>Wh-</i> questions and using <i>have/has</i> .	Students set a focused mathematical goal and make a plan for achieving that goal.	8-1	Math Terms cent (¢) dime nickel penny quarter	Academic Terms image represent	+ <i>Coin Value Cards Teaching Resource</i> + counters + pennies, nickels, dimes, and quarters	Conceptual Understanding, Procedural Skill & Fluency	2.MD.C.8
8-2	Solve Money Problems Involving Coins	Students determine the value of a set of coins of different denominations.	Students discuss the value of a set of coins of different denominations while answering <i>Wh-</i> questions and using <i>could</i> as needed.	Students recognize personal strengths and areas for growth through thoughtful self-reflection.	8-2	cent (¢) dime nickel penny quarter	arrange similar	+ <i>Number Chart 1–100 Teaching Resource</i> + paper bag + pennies, nickels, dimes, and quarters.	Application	2.MD.C.8
<b>Math Probe</b> <i>Counting Coins</i> Students determine if the amount of money shown is 86 cents.										
8-3	Solve Money Problems Involving Dollar Bills and Coins	Students solve problems with dollar bills or coins.	Students discuss problems with dollar bills or coins while answering <i>Wh-</i> and Yes/No questions and using <i>show</i> .	Students discuss the value of hearing different viewpoints and approaches to problem solving.	8-3	dollar bill dollar sign (\$)	arrange similar	+ index cards	Application	2.MD.C.8
8-4	Tell Time to the Nearest Five Minutes	Students use analog and digital clocks to tell and write time.	Students talk about time using analog and digital clocks while answering <i>Wh-</i> questions and using vocabulary related to time.	Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.	8-4	analog clock digital clock half past hour hand minute hand quarter past quarter to	different represent	+ <i>Clocks Teaching Resource</i> + student clocks + <i>Time Cards Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	2.MD.C.7
8-5	Be Precise When Telling Time	Students determine whether the time of an event is a.m. or p.m.	Students discuss whether the time of an event is a.m. or p.m. while answering <i>Wh-</i> and Yes/No questions and using <i>between</i> as needed.	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	8-5	a.m. p.m.	arrange decide determine	+ index cards + student clocks + <i>Timeline Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	2.MD.C.7
<b>Unit Review</b> <b>Fluency Practice</b> <b>Unit Assessment</b> <b>Performance Task</b>										

# UNIT 9 PLANNER

## Strategies to Add 3-Digit Numbers

**FOCUS QUESTION:**  
What strategies can I use to add 3-digit numbers?

**PACING: 11 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b>  <b>Greatest and Least Sums</b> Students apply their understanding of addition and place value to tackle addition challenges.								
9-1	Use Mental Math to Add 10 or 100	Students mentally add 10 or 100 to a 3-digit number.	Students talk about how they mentally add 10 or 100 to a 3-digit number using the phrase <i>go up</i> .	9-1	Math Terms hundreds	Academic Terms pattern solve	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.8
9-2	Represent Addition with 3-Digit Numbers	Students represent and solve 3-digit addition equations that require no regrouping.	Students discuss solving 3-digit addition equations that require no regrouping using the modals <i>can</i> and <i>might</i> .	9-2	addend	strategies useful	Conceptual Understanding	2.NBT.B.7
9-3	Represent Addition with 3-Digit Numbers with Regrouping	Students represent and solve 3-digit addition equations that require regrouping the ones and tens.	Students talk about solving 3-digit addition equations that require regrouping ones and tens, comparing the groupings using the adjectives <i>similar</i> and <i>different</i> .	9-3	regroup	check strategies	Conceptual Understanding	2.NBT.B.7
9-4	Decompose Addends to Add 3-Digit Numbers	Students decompose two addends to add 3-digit numbers.	Students talk about decomposing two addends to add 3-digit numbers using <i>could</i> and the adjective <i>helpful</i> .	9-4	decompose partial sums	efficient related	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.7
9-5	Decompose One Addend to Add 3-Digit Numbers	Students decompose one addend to add 3-digit numbers.	Students talk about decomposing one addend to add 3-digit numbers using the modal <i>might</i> .	9-5	decompose	check determine	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.7
9-6	Adjust Addends to Add 3-Digit Numbers	Students adjust addends to add 3-digit numbers.	Students explain how to adjust addends to add 3-digit numbers using the modal <i>must</i> .	9-6	adjust friendly numbers	represent wonder	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.7
9-7	Explain Addition Strategies	Students explain the strategies they use to add 3-digit numbers.	Students talk about the strategies they use to add 3-digit numbers using the superlative <i>best</i> and the adjective <i>useful</i> .	9-7	adjust decompose	decide useful	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.9

**Math Probe: Addition Word Problems** Solve 3-digit addition word problems involving two addends and compare the solution to a given number.

**Unit Review**  
**Fluency Practice**  
**Unit Assessment**  
**Performance Task**

PACING: 15 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Identify Greatest and Least Differences</i> Students apply their understanding of subtraction and place value to tackle subtraction challenges.									
<b>10-1</b>	Use Mental Math to Subtract 10 or 100	Students mentally subtract 10 or 100 from a 3-digit number.	Students talk about mentally subtracting 10 or 100 from a 3-digit number using <i>stay the same</i> and <i>change</i> .	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	<b>10-1</b>	Math Terms hundreds tens  Academic Terms mental math pattern	- base-ten blocks - <i>Blank Open Number Lines Teaching Resource</i> - <i>Number Cards 0–10 Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.8
<b>10-2</b>	Represent Subtraction with 3-Digit Numbers	Students represent and solve 3-digit subtraction equations that require no regrouping.	Students explain how to represent and solve 3-digit subtraction equations using <i>similar</i> and <i>different</i> .	Students use prior knowledge and new understanding of mathematical concepts to complete a task.	<b>10-2</b>	place value  relate represent	- base-ten blocks - <i>Blank Open Number Lines Teaching Resource</i> - number cubes - <i>Place Value Chart Teaching Resource</i>	Conceptual Understanding	2.NBT.B.7
<b>10-3</b>	Decompose One 3-Digit Number to Count Back	Students decompose one number by place value to count back to subtract 3-digit numbers.	Students discuss decomposing by place value to count back to subtract 3-digit numbers using <i>other ways</i> , <i>helpful</i> , and <i>efficient</i> .	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	<b>10-3</b>	decompose  efficient make sense	- <i>Blank Open Number Lines Teaching Resource</i> - <i>Number Cards 0–10 Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.7
<b>10-4</b>	Count On to Subtract 3-Digit Numbers	Students count on to subtract 3-digit numbers.	Students explain how to count on to subtract 3-digit numbers using <i>can</i> and <i>can't</i> .	Students exchange ideas for mathematical problem-solving with a peer.	<b>10-4</b>	related facts  relate similar	- <i>Blank Open Number Lines Teaching Resource</i> - index cards - number cubes	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.7
<b>10-5</b>	Regroup Tens	Students represent and solve 3-digit subtraction equations that require regrouping a ten.	Students talk about representing and solving 3-digit subtraction equations.	Students set learning goals and initiate work on tasks to accomplish their goals.	<b>10-5</b>	regroup  compare important	- base-ten blocks - <i>Number Cards 0–10 Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.7
<b>10-6</b>	Regroup Tens and Hundreds	Students represent and solve 3-digit subtraction equations that require regrouping a ten and a hundred.	Students discuss representing and solving 3-digit subtraction equations that require regrouping a ten and a hundred using the verb <i>change</i> .	Students identify a problem, use creativity to execute problem-solving steps, and identify multiple solutions.	<b>10-6</b>	regroup  represent value	- base-ten blocks - <i>Number Cards 0–10 Teaching Resource</i> - number cubes 0–5	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.7
<b>10-7</b>	Adjust Numbers to Subtract 3-Digit Numbers	Students adjust numbers to subtract 3-digit numbers.	Students explain how to adjust numbers to subtract 3-digit numbers using the verb <i>adjust</i> .	Students reflect on and describe the logic and reasoning used to make a mathematical decision.	<b>10-7</b>	adjust friendly numbers  operation strategy	- <i>Blank Open Number Lines Teaching Resource</i> - number cubes	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.7
<b>10-8</b>	Explain Subtraction Strategies	Students explain the strategies they use to subtract 3-digit numbers.	Students talk about the strategies they use to subtract 3-digit numbers with <i>use</i> , <i>best</i> , and <i>useful</i> .	Students collaborate with peers to complete a mathematical task and offer constructive feedback.	<b>10-8</b>	adjust decompose  strategies useful	- number cubes	Conceptual Understanding, Procedural Skill & Fluency	2.NBT.B.9
<b>10-9</b>	Solve Problems Involving Addition and Subtraction	Students solve one-step or two-step addition or subtraction word problems.	Students discuss <i>solving</i> one-step or two-step addition or subtraction word problems using the verb <i>help</i> .	Students identify and discuss the emotions experienced during math learning.	<b>10-9</b>	adjust decompose  explain strategy	- base-ten blocks	Application	2.NBT.B.7

**Math Probe** *Addition and Subtraction Problems* Students solve a problem using a strategy of their choice.

Unit Review

Fluency Practice

Unit Assessment

Performance Task

PACING: 9 days										
LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> Mystery Data Students discover the importance of labeling a set of data.										
11-1	Understand Picture Graphs	Students draw a picture graph to represent data.	Students explain how to draw a picture graph to represent data using the terms <i>title</i> , <i>category</i> , <i>tally mark</i> , <i>tally chart</i> , and <i>key</i> .	Students determine the strategies and analyses necessary to make informed decisions when engaging in mathematical practices.	11-1	<b>Math Terms</b> category data key picture graph tally chart tally marks title	<b>Academic Terms</b> information represent	+ <i>Picture Graph Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency, Application	2.MD.D.10
11-2	Understand Bar Graphs	Students draw a bar graph to represent data.	Students discuss drawing a bar graph to represent data using the terms <i>height</i> , <i>length</i> , and <i>value</i> .	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	11-2	bar graph	arrangement quantities	+ <i>Bar Graphs Teaching Resource</i> + connecting cubes	Conceptual Understanding, Procedural Skill & Fluency, Application	2.MD.D.10
11-3	Solve Problems Using Bar Graphs	Students use a bar graph to solve problems.	Students talk about using a bar graph to solve problems using the terms <i>most</i> and <i>least</i> .	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	11-3	bar graph	comparison restate	+ <i>Bar Graphs Teaching Resource</i> + brown paper bags + connecting cubes	Conceptual Understanding, Procedural Skill & Fluency, Application	2.MD.D.10
11-4	Collect Measurement Data	Students collect measurement data by measuring the length of objects and organizing it in a tally chart.	Students talk about collecting measurement data, using the terms <i>more than once</i> and <i>measure</i> .	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	11-4	centimeters inches	accomplish organize	+ base-ten tens rods + centimeter ruler + connecting cubes + inch rulers + measuring tape + <i>Tally Chart Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	2.MD.D.9
11-5	Understand Line Plots	Students interpret measurement data on a line plot.	Students discuss measurement data on a line plot using the terms <i>most common</i> and <i>least common</i> .	Students identify personal traits that make them good students, peers, and math learners.	11-5	centimeters inches line plot	observations represent	+ paper	Conceptual Understanding, Procedural Skill & Fluency	2.MD.D.9
<b>Math Probe</b> Reading Line Plots Students indicate if a given statement correctly describes what is shown on the line plot.										
11-6	Show Data on a Line Plot	Students make a line plot to show the measurement of lengths of objects.	Students explain how to make a line plot to show the measurement of lengths of objects using the terms <i>title</i> and <i>unit</i> .	Students discuss the value of hearing different viewpoints and approaches to problem solving.	11-6	centimeters inches line plot	challenge determine	+ <i>Line Plot Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	2.MD.D.9

**PACING: 10 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Why Prove Me Wrong!</i> Students think critically about covering a triangle with shapes.									
12-1	Recognize 2-Dimensional Shapes by Their Attributes	Students recognize 2-dimensional shapes based on their defining attributes.	Students discuss 2-dimensional shapes using the verb <i>notice</i> .	12-1	<b>Math Terms</b> angle attribute pentagon polygon quadrilateral	<b>Academic Terms</b> identify in common	<ul style="list-style-type: none"> <li>2-Dimensional Shapes Teaching Resource</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	2.G.A.1
12-2	Draw 2-Dimensional Shapes from Their Attributes	Students draw 2-dimensional shapes based on their defining attributes.	Students discuss drawing 2-dimensional shapes from their attributes using the verb <i>notice</i> and noun <i>difference</i> .	12-2	hexagon pentagon quadrilateral triangle	describe notice	<ul style="list-style-type: none"> <li>genboards</li> <li>number cubes</li> <li>straightedges</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	2.G.A.1
12-3	Recognize 3-Dimensional Shapes by Their Attributes	Students recognize 3-dimensional shapes based on their defining attributes.	Students discuss 3-dimensional shapes using the words <i>face</i> , <i>base</i> , <i>edge</i> , <i>apex</i> , and <i>vertex</i> .	12-3	apex base edge face rectangular prism vertex	in common recognize	<ul style="list-style-type: none"> <li>geometric solids (cones, cubes, cylinders, rectangular prisms, and spheres)</li> <li>real-life solids</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	2.G.A.1
12-4	Understand Equal Shares	Students identify equal shares.	Students talk about equal shares using the phrase <i>can be partitioned</i> .	12-4	equal shares fourths halves partition thirds	compare determine	<ul style="list-style-type: none"> <li>number cubes</li> <li>paper circles, rectangles, and squares</li> <li>scissors</li> <li>string and tape</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	2.G.A.3
<b>Math Probe Partitioning Shapes</b> Students indicate if a given shape is partitioned into four equal shares.									
12-5	Relate Equal Shares	Students relate equal shares of the same shape.	Students discuss relating equal shares of the same shape using <i>the same</i> and <i>different</i> .	12-5	equal shares fourths halves partition thirds	explain relate	<ul style="list-style-type: none"> <li>paper circles and rectangles</li> <li>spinner labeled 2, 3, 4</li> <li>string</li> <li>tape</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	2.G.A.3
12-6	Partition a Rectangle into Rows and Columns	Students partition rectangles into rows and columns of squares of equal size.	Students talk about partitioning rectangles into rows and columns of squares of equal size using the verb <i>arrange</i> .	12-6	column repeated addition row skip count	align arrange	<ul style="list-style-type: none"> <li>1-inch grid paper</li> <li>1-inch square tiles</li> <li>color tiles</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	2.G.A.2
<b>Unit Review</b>									
<b>Fluency Practice</b>									
<b>Unit Assessment</b>									
<b>Performance Task</b>									

## PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b>  <i>The Longest Path</i> Explore the longest path to get from one side of a grid to the other.									
1-1	Math Is Mine	Students discuss how math is used in their daily lives and in the lives of others. They describe their math story.	Students ask <i>What</i> questions to find out more about interests and opinions related to math.  To optimize the support of sense-making, ELs will participate in MLR8: Discussion Supports.	1-1	Math Terms  Academic Terms interview strengths	• letter-size paper cut into quarters	Conceptual Understanding	2.OA.C.4	
1-2	Math Is Exploring and Thinking	Students discuss approaches for understanding a problem and strategies for solving it.  Students make sense of quantities in the problem and look for connections among quantities.	Students describe the thinking process for solving a math problem using <i>could</i> and <i>might</i> .  To optimize output, ELs will participate in MLR1: Stronger and Clearer Each Time.	1-2	addends quantity		Conceptual Understanding	2.NBT.B.5	
1-3	Math Is In My World	Students explore ways to show real-world situations and problems with mathematical models.	Students explain possible ways to solve a problem using <i>might</i> .  To optimize output, ELs will participate in MLR3: Critique, Correct, and Clarify.	1-3	model  represent visualize	• base-ten blocks	Conceptual Understanding	2.NBT.A.1	
1-4	Math Is Explaining and Sharing	Students construct arguments to support their thinking.  Students respond to the ideas and arguments of others.	Students discuss arguments to support their thinking while answering <i>Wh-</i> and <i>Yes/No</i> questions and using thinking as needed.  To cultivate conversation, ELs will participate in MLR7: Compare and Connect.	1-4	estimate exact	appropriate defend	Conceptual Understanding	2.MD.C.8	
1-5	Math Is Finding Patterns	Students explore strategies for uncovering patterns and for using patterns to solve problems.	Students talk about the usefulness of mathematical patterns using <i>con</i> .  To maximize linguistic and cognitive meta-awareness, ELs will participate in MLR2: Collect and Display.	1-5	combinations patterns relationships	efficient	Conceptual Understanding	2.NBT.B.5	
1-6	Math Is Ours	Students discuss and decide on classroom norms of interaction for a productive math learning environment.	Students describe actions and behaviors in class using the clause <i>When we do math...</i>  To optimize output, ELs will participate in MLR5: Co-Craft Questions and Problems.	1-6		critique respectful	• pattern blocks • <i>Pattern Blocks Teaching Resource</i> • <i>Pattern Blocks 2 Teaching Resource</i>	Conceptual Understanding	2.NBT.A.2

## Unit Review

## Fluency Practice

# Use Place Value to Fluently Add and Subtract within 1,000

PACING: 18 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Money</i> <b>Penny Estimation</b> Students use strategies to estimate the number of pennies that will fit in a rectangular region.									
<b>2-1</b>	<b>Represent 4-Digit Numbers</b>	Students represent 4-digit numbers in expanded form, word form, and standard form using an understanding of place value.	Students describe 4-digit numbers using place value.	Students identify and discuss the emotions experienced during math learning.	<b>2-1</b>	Math Terms expanded form standard form word form Academic Terms determine represent.	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>blank number cubes</li> <li>deck of playing cards</li> <li>Place-Value Charts to 1,000s Teaching Resource</li> </ul>	Conceptual Understanding	3.NBT.A.1
<b>2-2</b>	<b>Round Multi-Digit Numbers</b>	Students round numbers to the nearest 10 or nearest 100.	Students will use the superlative <i>nearest</i> to explain rounding numbers.	Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.	<b>2-2</b>	round discuss identify	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>counters</li> <li>index cards</li> <li>Number Chart #01–500 Teaching Resource</li> </ul>	Conceptual Understanding	3.NBT.A.1
<b>Math Probe</b> Rounding Numbers Gather data on students' understandings of rounding to the nearest 10 and nearest 100.									
<b>2-3</b>	<b>Estimate Sums and Differences</b>	Students use compatible numbers to estimate a sum or difference.	Students make numerical estimations using <i>about</i> .	Students recognize and work to understand the emotions of others and practice empathetic responses.	<b>2-3</b>	estimate compatible numbers comparison reason	<ul style="list-style-type: none"> <li>blank number cubes</li> <li>Number Cards 0–10 Teaching Resource</li> </ul>	Procedural Skill & Fluency	3.NBT.A.1 3.NBT.A.2
<b>2-4</b>	<b>Use Addition Properties to Add</b>	Students apply the properties of addition when adding two or more addends.	Students justify multiple ways to solve an addition problem using <i>and</i> the sum <i>will be the same</i> .	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	<b>2-4</b>	addend justify strategy	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>blank number cubes</li> <li>numbered spinner</li> </ul>	Procedural Skill & Fluency	3.NBT.A.2
<b>2-5</b>	<b>Addition Patterns</b>	Students identify addition patterns and use the patterns to help determine sums of 3-digit numbers and check their accuracy.	Students read conditional sentences with <i>when</i> that express patterns.	Students develop and execute a plan, including selecting tools for mathematical problem solving.	<b>2-5</b>	even number odd number analyze identify	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>blank number cubes</li> </ul>	Conceptual Understanding	3.OA.D.9
<b>2-6</b>	<b>Use Partial Sums to Add</b>	Students use partial sums to add 3-digit numbers.	Students use <i>can</i> to explain the steps of an addition strategy.	Students recognize personal strengths through thoughtful self-reflection.	<b>2-6</b>	decompose partial sum strategy support	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>grid paper</li> <li>paper money (\$1 bills, \$10 bills, and \$100 bills)</li> </ul>	Procedural Skill & Fluency	3.NBT.A.2
<b>2-7</b>	<b>Decompose to Subtract</b>	Students decompose one number in different ways to subtract.	Students compare ways to decompose a number using terms such as <i>one way and another</i> .	Students identify a problem, use creativity to execute problem-solving steps, and identify multiple solutions.	<b>2-7</b>	decompose defend strategy	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>Number Cards 0–10 Teaching Resource</li> </ul>	Procedural Skill & Fluency	3.NBT.A.2
<b>2-8</b>	<b>Adjust Numbers to Add or Subtract</b>	Students adjust numbers to help them add or subtract.	Students express an opinion with support using language such as <i>I think and because</i> .	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	<b>2-8</b>	difference sum adjust process	<ul style="list-style-type: none"> <li>Number Cards 0–10 Teaching Resource</li> </ul>	Procedural Skill & Fluency	3.NBT.A.2
<b>2-9</b>	<b>Use Addition to Subtract</b>	Students use related addition equations to find the difference.	Students describe a bar diagram using precise measurements for distance.	Students recognize and work to understand the emotions of others and practice empathetic responses.	<b>2-9</b>	bar diagram comparison conclude	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>blank number cubes</li> <li>Number Cards 0–10 Teaching Resource</li> </ul>	Procedural Skill & Fluency	3.NBT.A.2
<b>2-10</b>	<b>Fluently Add within 1,000</b>	Students explain different strategies to add 3-digit numbers.	Students use the transitional word <i>then</i> to articulate a strategy with more than one step.	Students demonstrate self-awareness of personal strengths and areas of challenge in mathematics.	<b>2-10</b>	partial sum justify process	<ul style="list-style-type: none"> <li>blank number cubes</li> </ul>	Procedural Skill & Fluency	3.NBT.A.2
<b>2-11</b>	<b>Fluently Subtract within 1,000</b>	Students explain different strategies to subtract 3-digit numbers.	Students use command verbs to explain the steps of a strategy.	Students set a focused mathematical goal and make a plan for achieving that goal.	<b>2-11</b>	decompose justify response	<ul style="list-style-type: none"> <li>blank number cubes</li> <li>transparent spinner</li> </ul>	Procedural Skill & Fluency	3.NBT.A.2
<b>2-12</b>	<b>Solve Two-Step Problems Involving Addition and Subtraction</b>	Students write and solve equations to represent a two-step problem. Students use letters for the unknowns.	Students describe the amount they need to find in a word problem using the verb <i>need</i> .	Students reflect on and describe the logic and reasoning used to make a mathematical decision or conclusion.	<b>2-12</b>	bar diagram unknown identify process	<ul style="list-style-type: none"> <li>Problem-Solving Tool Teaching Resource</li> </ul>	Conceptual Understanding Application	3.OA.D.8

Unit Review

Fluency Practice

Performance Task

Unit Assessment

**PACING: 12 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Broken Calculators</i> Explore adding combinations of 2s and 5s to obtain a particular number.									
3-1	Understand Equal Groups	Students explain one meaning of multiplication: equal groups.	Students describe multiplication equations using the term <i>equal groups</i> .	3-1	Math Terms equal groups multiplication	Academic Terms create determine	<ul style="list-style-type: none"> <li>blank number cubes</li> <li>counters</li> <li>yarn or string</li> </ul>	Conceptual Understanding	3.OA.A.1
3-2	Use Arrays to Multiply	Students use arrays to represent multiplication.	Students read and understand a word problem with an <i>if</i> clause.	3-2	array factor product	represent strategy	<ul style="list-style-type: none"> <li>blank number cubes</li> <li>counters</li> </ul>	Conceptual Understanding	3.OA.A.1
<b>Math Probe</b> <i>Ways to Show <math>3 \times 6</math></i> Gather data on students' understandings of representations used for multiplication.									
3-3	Understand the Commutative Property	Students demonstrate understanding of the Commutative Property of Multiplication.	Students describe the components of an array using the verb <i>has</i> .	3-3	array factor product	conclude structure	<ul style="list-style-type: none"> <li>counters</li> <li>tenboards</li> </ul> <ul style="list-style-type: none"> <li>rubber bands</li> </ul>	Conceptual Understanding	3.OA.B.5
3-4	Understand Equal Sharing	Students represent division with equal sharing.	Students understand questions about possibility.	3-4	division	context contrast	<ul style="list-style-type: none"> <li>counters</li> <li>cup</li> </ul> <ul style="list-style-type: none"> <li>dot cube</li> <li>paper plates</li> </ul>	Conceptual Understanding	3.OA.A.2
3-5	Understand Equal Grouping	Students represent division with equal grouping.	Students use <i>There are</i> to articulate the number of groups.	3-5	dividend divisor quotient	compare context	<ul style="list-style-type: none"> <li>blank cubes</li> <li>counters</li> <li>index cards</li> </ul>	Conceptual Understanding	3.OA.A.2
3-6	Relate Multiplication and Division	Students use equal groups and arrays to represent the relationship between multiplication and division.	Students use <i>both...and</i> to explain more than one way to solve a problem.	3-6	array division equal groups multiplication	characterize compare	<ul style="list-style-type: none"> <li>counters</li> </ul>	Conceptual Understanding	3.OA.A.1 3.OA.A.2
3-7	Find the Unknown	Students use representations to determine the unknown in a multiplication or division equation.	Students explain possible ways to solve a problem with the phrase <i>You can use</i> .	3-7	unknown	identify determine	<ul style="list-style-type: none"> <li>blank number cubes</li> <li>counters</li> </ul> <ul style="list-style-type: none"> <li>index cards</li> </ul>	Conceptual Understanding	3.OA.A.4
<b>Unit Review</b>									
<b>Fluency Practice</b>									
<b>Performance Task</b>									
<b>Unit Assessment</b>									

## PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b>  Skip Counting into Shapes: Connect numbers while skip counting to create shapes in circles.										
<b>4-1</b>	Use Patterns to Multiply by 2	Students describe and use patterns to multiply by 2.	Students explain similarities using the expression <i>the same as</i> .	Students demonstrate self-awareness of personal strengths and areas of challenge in mathematics.	<b>4-1</b>	<b>Math Terms</b> multiple multiplication fact table pattern product	<b>Academic Terms</b> conclude recognize	<ul style="list-style-type: none"> <li>transparent spinner</li> <li>counters</li> </ul> <ul style="list-style-type: none"> <li><a href="#">Multiplication Fact Table to 10 Teaching Resource</a></li> </ul>	Procedural Skill & Fluency	3.OA.C.7
<b>4-2</b>	Use Patterns to Multiply by 5	Students describe and use patterns to multiply by 5.	Students articulate a numerical result to a word problem using <i>There are . . .</i>	Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.	<b>4-2</b>	multiplication fact table pattern product skip count	determine strategy	<ul style="list-style-type: none"> <li>blank cubes</li> <li>counters</li> </ul> <ul style="list-style-type: none"> <li><a href="#">Multiplication Fact Table to 10 Teaching Resource</a></li> </ul>	Procedural Skill & Fluency	3.OA.C.7
<b>Math Probe</b> Multiply by 2 and 5 Identify representations that can be used to illustrate multiplying by 2 and by 5.										
<b>4-3</b>	Use Patterns to Multiply by 10	Students describe and use patterns to multiply by 10.	Students use the preposition <i>by</i> before a number to show what factor is being multiplied.	Students demonstrate thoughtful reflection through identifying the causes of challenges and successes while completing a mathematical task.	<b>4-3</b>	multiplication fact table pattern product skip count	identify value	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>index cards</li> </ul> <ul style="list-style-type: none"> <li><a href="#">Multiplication Fact Table to 10 Teaching Resource</a></li> </ul>	Procedural Skill & Fluency	3.OA.C.7
<b>4-4</b>	Use Patterns to Multiply by 1 and 0	Students describe and use patterns to multiply with 0 and 1.	Students use <i>to</i> when explaining the reasoning for a pattern.	Students explore taking different perspectives on approaches to problem solving.	<b>4-4</b>	multiplication pattern product	process reasoning	<ul style="list-style-type: none"> <li>blank cubes</li> <li>counters</li> </ul>	Procedural Skill & Fluency	3.OA.C.7 3.OA.D.9
<b>4-5</b>	Multiply Fluently by 0, 1, 2, 5, and 10	Students use known patterns to solve unknown facts.	Students use a <i>When . . .</i> clause to describe a mathematical pattern.	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	<b>4-5</b>	pattern product	apply explain	<ul style="list-style-type: none"> <li>blank cubes</li> <li><a href="#">Number Cards 0–10 Teaching Resource</a></li> </ul>	Procedural Skill & Fluency	3.OA.C.7
<b>4-6</b>	Solve Problems Involving Equal Groups	Students represent the problem with equal groups and an equation. Students use equal groups to solve the equation.	Students start a sentence with <i>Drawing a . . .</i> to describe a visual representation.	Students identify a problem, use creativity to execute problem-solving steps, and identify multiple solutions.	<b>4-6</b>	equal groups unknown	explain strategy	<ul style="list-style-type: none"> <li>counters</li> <li>index cards</li> </ul> <ul style="list-style-type: none"> <li><a href="#">Multiplication Fact Table to 10 Teaching Resource</a></li> </ul>	Application	3.OA.A.3 3.OA.A.4
<b>Unit Review</b>										
Fluency Practice										
Performance Task										
Unit Assessment										



## PACING: 11 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>How Many Rectangles?</i> Students think about different ways to make rectangles to connect area and multiplication.										
6-1	Understand Area	Students demonstrate understanding of concepts of area measurement.	Students articulate an understanding of area by talking about gaps and overlaps.	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	6-1	Math Terms area square units unit square	Academic Terms discuss strategy	• color tiles • <i>Tiling Figures</i> Teaching Resource	Conceptual Understanding, Procedural Skill & Fluency	3.MD.C.5, 3.MD.C.5.a, 3.MD.C.5.b, 3.MD.C.7.a
6-2	Count Unit Squares to Determine Area	Students determine area by counting unit squares.	Students state a measurement of area using precise units and the preposition <i>by</i> .	Students discuss and practice strategies for managing stressful situations.	6-2	area square units unit square	define reason	• color tiles • grid paper	Conceptual Understanding, Procedural Skill & Fluency	3.MD.C.6
6-3	Use Multiplication to Determine Area	Students multiply the length of a rectangle by its width to determine the area of a rectangle.	Students express area using the unit of measurement <i>square unit</i> .	Students reflect on and describe the logic and reasoning used to make a mathematical decision or conclusion.	6-3	area multiplication	claim strategy	• color tiles • grid paper	Conceptual Understanding, Procedural Skill & Fluency	3.MD.C.7.a, 3.MD.C.7.b
6-4	Determine the Area of a Composite Figure	Students determine the area of composite figures.	Students use the imperatives <i>Find</i> and <i>Add</i> to explain how to determine area.	Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.	6-4	composite figure	comparison identify	• grid paper • markers	Conceptual Understanding, Procedural Skill & Fluency	3.MD.C.7.d
<b>Math Probe</b> <i>Area</i> Students determine whether the area of a composite figure was found correctly.										
6-5	Use the Distributive Property to Determine Area	Students determine the area of a rectangle by decomposing a side length using the Distributive Property.	Students read a mathematical property written as a multi-clause sentence.	Students identify and discuss the emotions experienced during math learning.	6-5	decompose	process summarize	• blank cubes • grid paper	Conceptual Understanding, Procedural Skill & Fluency	3.MD.C.7.c
6-6	Solve Area Problems	Students solve real-world problems involving the area of rectilinear figures.	Students describe figures using appropriate nouns and adjectives for area measurement.	Students explore taking different perspectives on approaches to problem solving.	6-6	area composite figure	determine reasoning	• grid paper	Conceptual Understanding, Procedural Skill & Fluency	3.MD.C.7.b, 3.MD.C.7.c, 3.MD.C.7.d
<b>Unit Review</b> <b>Fluency Practice</b> <b>Performance Task</b> <b>Unit Assessment</b>										

## PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD			
<b>Unit Opener</b>  Sharing Muffins Students apply the concept of fair and equal parts of a whole.											
7-1	Partition Shapes into Equal Parts	Students partition different shapes into equal parts. Students use the number of parts to describe the equal parts of the shape.	Students describe equal parts by using a clause with <i>when</i> .	Students discuss the value of hearing different viewpoints and approaches to problem solving.	7-1	Math Terms partition	Academic Terms defend support	• blank cubes • grid paper	• index cards • scissors	Conceptual Understanding	3.G.A.2
7-2	Understand Fractions	Students identify and represent fractions. Students explain how to represent a fraction using the meanings of the numerator and the denominator.	Students explain a fraction by using the verb <i>represents</i> .	Students set learning goals and initiate work on tasks to accomplish their goals.	7-2	denominator fraction numerator unit fraction	comparison identify	• fraction circles • index cards		Conceptual Understanding	3.NF.A.1, 3.G.A.2
<b>Math Probe</b> Representing Fractions Students understand the meaning of equal areas of a whole when considering representations for unit fractions.											
7-3	Represent Fractions on a Number Line	Students partition number lines into intervals and represent each interval with a unit fraction. Students identify and represent fractions on a number line.	Students articulate intervals by counting fractions on a number line.	Students recognize personal strengths through thoughtful self-reflection.	7-3	number line partition unit fraction	determine identify	• rulers		Conceptual Understanding	3.NF.A.2, 3.NF.A.2.a, 3.NF.A.2.b
7-4	Represent One Whole as a Fraction	Students represent one whole as a fraction. Student represent fractions equal to one whole.	Students explain different ways to represent fractions by using <i>another way</i> .	Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.	7-4	denominator fraction tiles numerator unit fraction	conclusion investigate	• blank cubes • fraction tiles		Conceptual Understanding	3.NF.A.3, 3.NF.A.3.c
7-5	Represent Whole Numbers as Fractions	Students represent whole numbers as fractions. Students represent fractions equal to whole numbers.	Students articulate possible strategies by using <i>can</i> .	Students break down a situation to identify the problem at hand.	7-5	denominator numerator whole number	analyze strategy	• blank cubes • fraction tiles		Conceptual Understanding	3.NF.A.3, 3.NF.A.3.c
7-6	Represent a Fraction Greater Than One on a Number Line	Students represent fractions greater than one on a number line.	Students make comparisons between fractions by using <i>greater than</i> and <i>less than</i> .	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	7-6	denominator numerator	identify strategy	• fraction circles • fraction tiles	• markers • whiteboards	Conceptual Understanding	3.NF.A.2, 3.NF.A.2.b
<b>Unit Review</b> <b>Fluency Practice</b> <b>Performance Task</b> <b>Unit Assessment</b>											

## PACING: 12 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD			
<b>Unit Opener</b> <i>Math Probe</i> <b>Folding Fractions</b> Through paper folding, students discover that different fractions can name the same part of a whole.											
<b>8-1</b>	Understand Equivalent Fractions	Students determine whether two fractions are equivalent.	Students compare two fractions using various synonyms for expressing equivalence such as <i>same, equal, equivalent, etc.</i>	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	<b>8-1</b>	Math Terms <b>equivalent</b>	Academic Terms determine process	• dominoes or index cards • fraction tiles	Conceptual Understanding	3.NF.A.3, 3.NF.A.3.a	
<b>8-2</b>	Represent Equivalent Fractions	Students generate equivalent fractions. Students explain why fractions are equivalent.	Students justify a conclusion by using the conjunction <i>so</i> .	Students explore taking different perspectives on approaches to problem solving.	<b>8-2</b>	equivalent	indicate process	• fraction tiles • index cards	Conceptual Understanding	3.NF.A.3, 3.NF.A.3.b	
<b>8-3</b>	Represent Equivalent Fractions on a Number Line	Students use number lines to determine and generate equivalent fractions. Students use number lines to explain why fractions are equivalent.	Students explain the reasoning for a mathematical concept by using <i>because</i> .	Students identify and discuss the emotions experienced during math learning.	<b>8-3</b>	equivalent	contrast identify	• fraction tiles • grid paper	Conceptual Understanding	3.NF.A.3, 3.NF.A.3.a, 3.NF.A.3.b	
<b>8-4</b>	Understand Fractions of Different Wholes	Students explain why fraction comparisons are valid only when the wholes are the same size.	Students explain something that's mathematically impossible by using <i>cannot</i> .	Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.	<b>8-4</b>	denominator equivalent numerator	comparison create	• fraction tiles • grid paper	Conceptual Understanding	3.NF.A.3, 3.NF.A.3.d	
<b>8-5</b>	Compare Fractions with the Same Denominator	Students compare fractions with the same denominator and different numerators.	Students articulate the word form of the mathematical symbols $>$ , $<$ , and $=$ .	Students develop and execute a plan, including selecting tools for mathematical problem solving.	<b>8-5</b>	denominator numerator	evidence justify	• blank cubes • fraction tiles • index cards	• <i>Spinner Numbers Teaching Resource</i> • transparent spinners	Conceptual Understanding, Procedural Skill & Fluency	3.NF.A.3, 3.NF.A.3.d
<b>8-6</b>	Compare Fractions with the Same Numerator	Students compare fractions with the same numerator and different denominators.	Students explain a comparison of two fractions by using a conditional clause with <i>When...</i>	Students demonstrate thoughtful reflection through identifying the causes of challenges and successes while completing a mathematical task.	<b>8-6</b>	denominator numerator	justify process	• blank cubes • fraction circles • fraction tiles • index cards	• <i>Spinner Numbers Teaching Resource</i> • transparent spinners	Conceptual Understanding	3.NF.A.3, 3.NF.A.3.d
<b>8-7</b>	Compare Fractions	Students compare two fractions and justify their comparison using fraction models or number lines.	Students offer justifications by using sentences that start with <i>So...</i>	Students use prior knowledge and new understanding of mathematical concepts to complete a task, building stronger self-efficacy.	<b>8-7</b>	denominator numerator	create strategy	• blank cubes • fraction circles • fraction tiles	• grid paper • index cards	Conceptual Understanding	3.NF.A.3.b, 3.NF.A.3.d

**Math Probe** **Equivalent Fractions Card Sort** Students sort fraction representations into *equivalent* and *not equivalent*.

## Unit Review

## Fluency Practice

## Performance Task

## Unit Assessment

PACING: 15 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>Number</i> Collect 4 Multiplication Students play a game that facilitates basic fact practice that requires logic and reasoning to win.								
9-1	Use Multiplication to Solve Division Equations	Students use an unknown-factor problem to solve a division equation.	Students explain how to use the relationship between multiplication and division using <i>con</i> .	9-1	Math Terms fact family fact triangle quotient unknown	Academic Terms justify strategy	Conceptual Understanding	3.OA.B.6
9-2	Divide by 2	Students use related multiplication facts to divide by 2.	Students describe the steps to solve a word problem using the expression <i>help you find</i> .	9-2	fact triangle quotient unknown	justify strategy	Procedural Skill & Fluency	3.OA.C.7
9-3	Divide by 5 and 10	Students use related multiplication facts to divide by 5 and 10.	Students articulate a solution for a word problem about money using specific names for coins.	9-3	quotient unknown	determine discuss	Procedural Skill & Fluency	3.OA.C.7
9-4	Understand Division with 1 and 0	Students use patterns and rules to recall division facts with 1 and 0.	Students explain reasons for a solution to division facts using <i>because</i> .	9-4	dividend divisor quotient	organize summarize	Procedural Skill & Fluency	3.OA.C.7
9-5	Divide by 3 and 6	Students use related multiplication facts to divide by 3 and 6.	Students explain an approach for solving a problem using the verb <i>determine</i> .	9-5	fact triangle quotient unknown	create support	Conceptual Understanding, Procedural Skill & Fluency	3.OA.C.7
9-6	Divide by 4 and 8	Students use related multiplication facts to divide by 4 and 8.	Students use an <i>if</i> statement to explain a conditional mathematical situation	9-6	quotient unknown	organize support	Procedural Skill & Fluency	3.OA.C.7
<b>Math Probe</b> <i>Word Problems</i> Identify multiplication and division equations that represent problem situations.								
9-7	Divide by 9	Students use related multiplication facts to divide by 9.	Students relate division and multiplication using the preposition <i>by</i> .	9-7	multiplication fact table	information organize	Procedural Skill & Fluency	3.OA.C.7
9-8	Divide by 7	Students use related multiplication facts to divide by 7.	Students introduce a reason to explain a mathematical result by using <i>Since</i> ...	9-8	multiplication fact table	analyze conclusion	Procedural Skill & Fluency	3.OA.C.7
9-9	Multiply and Divide Fluently within 100	Students use different multiplication and division strategies to multiply and divide.	Students introduce the solution to a word problem by using <i>So</i> ...	9-9	decompose pattern unknown	organize strategy	Procedural Skill & Fluency	3.OA.C.7
<b>Unit Review</b> <b>Fluency Practice</b> <b>Performance Task</b> <b>Unit Assessment</b>								

## PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>Identify</i> Which Option Is Better? Students construct viable arguments and critique the reasoning of others as they decide which is the better option for earning money doing chores.								
10-1	Patterns with Multiples of 10	Students use basic facts, place-value understanding, and patterns to determine the product of a 1-digit factor and a multiple of 10.	Students list three strategies for multiplication using <i>and</i> .	10-1	Math Terms multiple	Academic Terms strategy structure	Conceptual Understanding, Procedural Skill & Fluency	3.NBT.A.3
10-2	More Multiplication Patterns	Students identify and explain patterns in the multiplication fact table.	Students explain commonalities between patterns by using the phrase <i>Some of these...</i>	10-2	factor pattern product	identify justify	Conceptual Understanding	3.OA.D.9
10-3	Understand the Associative Property	Students explain that three factors can be grouped in different ways without changing the product.	Students explain an impossible mathematical outcome with <i>does not</i> .	10-3	factor product	process strategy	Conceptual Understanding	3.OA.B.5
<b>Math Probe</b> <i>Multiplication Equations</i> Apply understanding of equality and the operation of multiplication when determining the missing product in an equation.								
10-4	Two-Step Problems Involving Multiplication and Division	Students make sense of a two-step word problem and use multiplication and division to solve.	Students explain more than one way to solve two-step multiplication problems using the verb <i>use</i> .	10-4	bar diagram unknown	determine represent	Conceptual Understanding, Application	3.OA.D.8
10-5	Solve Two-Step Problems	Students make sense of a two-step word problem and determine which operations are needed to solve the problem.	Students offer a justification for using a model to solve a problem by using <i>to + verb</i> .	10-5	bar diagram unknown	conclude strategy	Conceptual Understanding, Application	3.OA.D.8
10-6	Explain the Reasonableness of a Solution	Students use mental computation and estimation strategies to assess the reasonableness of answers to a two-step problem.	Students articulate numerical estimations by using the expression <i>about</i> .	10-6	estimate	analyze reasonable	Conceptual Understanding, Application	3.OA.D.8
<b>Unit Review</b> <b>Fluency Practice</b> <b>Performance Task</b> <b>Unit Assessment</b>								

**PACING: 9 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Area</i> Rectangles: The "Ins" and the "Outs" Students explore relationships between area and perimeter.									
11-1	Understand Perimeter	Students determine when a measurement describes perimeter. Students count or add to determine the perimeter of a figure.	Students describe the process of creating a perimeter by using the preposition <i>around</i> .	Students discuss the value of hearing different viewpoints and approaches to problem solving.	11-1	Math Terms perimeter	Academic Terms investigate strategy	+ color tiles + grid paper	Procedural Skill & Fluency, Application 3.MD.D.8
11-2	Determine Perimeter of Figures	Students use different strategies to find the perimeter of a figure, including counting, adding, and multiplying.	Students articulate perimeter measurements using a range of units of length, such as <i>feet</i> , <i>yards</i> , and <i>meters</i> .	Students identify and discuss the emotions experienced during math learning.	11-2	perimeter	strategy support	+ grid paper + playing cards	Procedural Skill & Fluency, Application 3.MD.D.8
11-3	Determine an Unknown Side Length	Students determine an unknown side length of a figure when given the perimeter and other side lengths.	Students use the term <i>unknown</i> to describe a missing number.	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	11-3	perimeter unknown	information strategy	+ grid paper + precut shapes labeled with missing side length and total perimeter	Procedural Skill & Fluency, Application 3.MD.D.8
11-4	Solve Problems Involving Area and Perimeter	Students solve problems involving area and perimeter. Students solve problems involving figures with the same perimeter and different areas or with the same area and different perimeters.	Students compare two figures by using the expression <i>have the same but ...</i>	Students determine the strategies and analyses necessary to make informed decisions when engaging in mathematical practices.	11-4	area perimeter	comparison conclude	+ blank cubes + color tiles + grid paper	Procedural Skill & Fluency, Application 3.MD.D.8
<b>Math Probe</b> <i>Expressions for Perimeter and Area</i> Students distinguish between finding the area and the perimeter of a rectangle.									
11-5	Solve Problems Involving Measurement	Students represent and solve problems with length measurements.	Students articulate ways to solve a problem by using precise names for visual representations.	Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.	11-5	bar diagram length	conclude discuss	+ blank cubes + counters + string	Procedural Skill & Fluency, Application 3.OA.A.3 3.OA.A.4
<b>Unit Review</b> <b>Fluency Practice</b>									
<b>Performance Task</b> <b>Unit Assessment</b>									

PACING: 17 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>Compare Buildings</i> Students explore different ways to measure and compare the heights of buildings.								
12-1	Measure Liquid Volume	Students measure liquid volume in milliliters and liters.	Students express a precise measurement of liquid by using <i>liters and millimeters</i> .	12-1	<b>Math Terms</b> liquid volume liter (L) milliliter (mL)	<b>Academic Terms</b> compare strategy metric measuring cups (500 mL) metric measuring cup (1 L) water	Conceptual Understanding, Procedural Skill & Fluency	3.MD.A.2
12-2	Estimate and Solve Problems with Liquid Volume	Students estimate liquid volumes in milliliters and liters. Students solve word problems involving liquid volume.	Students use the word <i>about</i> to give an estimate of liquid volume.	12-2	estimate liquid volume liter (L) milliliter (mL)	metric measuring cups water	Conceptual Understanding, Procedural Skill & Fluency, Application	3.MD.A.2
12-3	Measure Mass	Students measure mass in grams and kilograms.	Students introduce a <i>solution</i> to a word problem using <i>so</i> .	12-3	<b>balance scale</b> gram (g) kilogram (kg) mass	effect indicate balance scale classroom objects metric units of mass	Conceptual Understanding, Procedural Skill & Fluency, Application	3.MD.A.2
12-4	Estimate and Solve Problems with Mass	Students estimate mass in grams and kilograms. Students solve word problems involving mass.	Students articulate a <i>conclusion</i> about the mass of an object using <i>so</i> .	12-4	gram (g) kilogram (kg) mass	organize strategy apple balance scale everyday objects (1 g, 100 g, 1 kg) metric units of mass	Conceptual Understanding, Procedural Skill & Fluency, Application	3.MD.A.2
12-5	Tell Time to the Nearest Minute	Students tell and write time to the nearest minute.	Students tell time on an analog clock using the terms <i>before</i> and <i>past</i> .	12-5	analog clock digital clock	analyze indicate student clocks	Conceptual Understanding, Procedural Skill & Fluency, Application	3.MD.A.1
12-6	Solve Problems Involving Time	Students solve word problems involving time intervals.	Students express times shown on an analog clock by using hours and exact minutes.	12-6	number line	contrast interval number lines student clocks	Conceptual Understanding, Procedural Skill & Fluency, Application	3.MD.A.1
12-7	Understand Scaled Picture Graphs	Students create scaled picture graphs.	Students describe the scale of a picture graph by using the verb <i>represents</i> .	12-7	<b>key</b> picture graph scale	collect label Picture Graph Teaching Resource playing cards	Procedural Skill & Fluency, Application	3.MD.B.3
12-8	Understand Scaled Bar Graphs	Students create scaled bar graphs.	Students express the values used to scale a graph by using the term <i>each</i> .	12-8	bar graph scale	analyze collect Bar Graphs Teaching Resource connecting cubes	Procedural Skill & Fluency, Application	3.MD.B.3
12-9	Solve Problems Involving Scaled Graphs	Students solve problems using scaled graphs.	Students interpret data on a bar graph by using the expression <i>more than</i> .	12-9	bar graph picture graph	information summarize grid paper	Conceptual Understanding, Application	3.MD.B.3
12-10	Measure to Halves or Fourths of an Inch	Students measure objects to the nearest half and quarter inch.	Students articulate two possible measurements, one estimated and one precise, by using <i>or</i> .	12-10	<b>ruler</b>	collect identity Quarter-Inch Rulers Teaching Resource	Conceptual Understanding, Procedural Skill & Fluency	3.MD.B.4
<b>Math Probe</b> <i>Measuring Length</i> Students find the length of a line segment and determine whether statements about the measurement are true or false.								
12-11	Show Measurement Data on a Line Plot	Students generate measurement data and create line plots to display the data.	Students describe a tally on a line plot by using the expression <i>the number of</i> .	12-11	<b>line plot</b>	create organize quarter-inch rulers	Conceptual Understanding, Procedural Skill & Fluency	3.MD.B.4

Unit Review  
Fluency Practice

Performance Task  
Unit Assessment

PACING: 8 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Hidden Squares</i> Students count the number of squares and rectangles in a figure.									
<b>13-1</b>	<b>Describe and Classify Polygons</b>	Students describe polygons and classify them based on their shared attributes.	Students classify polygons by using the terms <i>sides</i> and <i>angles</i> .	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	<b>13-1</b>	<p><b>Math Terms</b></p> <ul style="list-style-type: none"> <li>octagon</li> <li>pentagon</li> <li>polygon</li> <li>quadrilateral</li> </ul> <p><b>Academic Terms</b></p> <ul style="list-style-type: none"> <li>attribute</li> <li>determine</li> </ul>	<ul style="list-style-type: none"> <li>pattern blocks</li> <li><i>Polygons Teaching Resource</i></li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	3.G.A.1
<b>13-2</b>	<b>Describe Quadrilaterals</b>	Students describe quadrilaterals based on their attributes.	Students compare quadrilaterals by using terms for attributes such as <i>right angles</i> and <i>side lengths</i> .	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	<b>13-2</b>	<ul style="list-style-type: none"> <li>quadrilateral</li> <li>right angle</li> </ul> <ul style="list-style-type: none"> <li>attribute</li> <li>compare</li> </ul>	<ul style="list-style-type: none"> <li>geoboards</li> <li>grid paper</li> <li>rubber bands</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	3.G.A.1
<b>13-3</b>	<b>Classify Quadrilaterals</b>	Students identify and classify quadrilaterals based on their attributes.	Students classify quadrilaterals by using precise names, such as <i>square</i> , <i>rectangle</i> , and <i>rhombus</i> .	Students explore taking different perspectives on approaches to problem solving.	<b>13-3</b>	<ul style="list-style-type: none"> <li>rhombus</li> </ul> <ul style="list-style-type: none"> <li>classify</li> <li>define</li> </ul>	<ul style="list-style-type: none"> <li><i>Quadrilaterals Teaching Resource</i></li> <li>rulers</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	3.G.A.1
<b>Math Probe</b> <i>Classifying Shapes</i> Students identify all possible names for shapes.									
<b>13-4</b>	<b>Draw Quadrilaterals with Specific Attributes</b>	Students use given attributes and an understanding of categories of quadrilaterals to draw quadrilaterals.	Students describe the process of drawing quadrilaterals by using commands such as <i>Find</i> and <i>Draw</i> to introduce each step.	Students break down a situation to identify the problem at hand.	<b>13-4</b>	<ul style="list-style-type: none"> <li>quadrilateral</li> </ul> <ul style="list-style-type: none"> <li>create</li> <li>include</li> </ul>	<ul style="list-style-type: none"> <li>grid paper</li> <li>rulers</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	3.G.A.1
<b>Unit Review</b>									
<b>Fluency Practice</b>									
<b>Performance Task</b>									
<b>Unit Assessment</b>									

## PACING: 8 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b>  Let's Shake: Explore the number of handshakes of a group of people.								
1-1	Math Is Mine	Students discuss their strengths in math. They describe their math story.	Students use <i>am</i> and <i>is</i> to identify their own and others' strengths in math.	1-1	Math Terms interview strength	Academic Terms • blank paper • markers • colored pencils • crayons	Conceptual Understanding	3.NF.A.1
1-2	Math Is Exploring and Thinking	Students discuss approaches for understanding a problem and strategies for solving it. Students make sense of quantities in the problem and look for connections among quantities.	Students describe approaches and strategies for solving a problem and describe connections among quantities using <i>can</i> and <i>could</i> .	1-2	dimensions rectangular	analyze	Conceptual Understanding	3.NF.A.1
1-3	Math Is in My World	Students consider different ways to use mathematics to represent a real-world situation.	Students show appreciation for the different perspectives of their classmates.	1-3	model	visualize • fraction strips • <i>Fractional Parts of the Whole Teaching Resource</i>	Conceptual Understanding	3.NF.A.3
1-4	Math Is Explaining and Sharing	Students construct arguments to support their thinking. Students respond to the ideas and arguments of others.	Students practice showing respect for classmates as they share ideas and thinking.	1-4	estimate exact	critique defend precise • <i>Which Is It? Teaching Resource</i>	Conceptual Understanding	3.OA.A.2
1-5	Math Is Finding Patterns	Students describe strategies for uncovering patterns and for using patterns to solve problems.	Students practice self-control as they learn to take turns when sharing ideas with a partner or in a group.	1-5		efficient generalize • tangram pieces	Conceptual Understanding	3.NF.A.3
1-6	Math Is Ours	Students discuss and decide on classroom norms of interaction for a productive math learning environment.	Students make decisions about classroom norms for working productively with classmates.	1-6		generalization norms promise respectful • genboards • pattern blocks	Conceptual Understanding	3.OA.A.3 3.NF.A.3
<b>Unit Review</b> <b>Fluency Practice</b>								

## PACING: 8 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>with Fewest Coins</i> Explore base-5 number system using pennies, nickels, and quarters and compare to a base-10 system.									
2-1	Understand the Structure of Multi-Digit Numbers	Students relate the value of a digit in one place-value position to that of the same digit in the place to its right; determine the value of a digit in any place in a number.	Students identify the value of any digit in a number and explain that a digit in any place represents ten times what it represents in the place to its right using the terms <i>the right/left</i> .	Students set learning goals and initiate work on tasks to accomplish their goals.	2-1	Math Terms base-10 number system digit expanded form	Academic Terms generalize notice	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li><i>Place-Value Chart to Millions Teaching Resource</i></li> </ul>	Conceptual Understanding 4.NBT.A.1
2-2	Read and Write Numbers to One Million	Students read and write numbers from 1 to 1,000,000 in standard form, word form, and expanded form.	Students identify and write multi-digit whole numbers using base-ten numerals, number names, and expanded form using the prefix <i>multi-</i> .	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	2-2	expanded form period standard form word form	notice represent	<ul style="list-style-type: none"> <li>index cards</li> <li><i>Place-Value Chart with Periods Teaching Resource</i></li> </ul>	Conceptual Understanding 4.NBT.A.2
2-3	Compare Multi-Digit Numbers	Students compare multi-digit numbers using place value and record comparisons using symbols.	Students compare two multi-digit numbers based on the values of digits in each place using the academic word <i>compare</i> .	Students identify personal traits that make them good students, peers, and math learners.	2-3	digit value	conjecture represent	<ul style="list-style-type: none"> <li><i>Number Cards 0–10 Teaching Resource</i></li> <li>number cubes</li> <li><i>Place-Value Chart to Millions Teaching Resource</i></li> </ul>	Conceptual Understanding Procedural Skill & Fluency 4.NBT.A.2
2-4	Round Multi-Digit Numbers	Students determine an estimate by rounding numbers to an appropriate place; round multi-digit numbers to any place.	Students explain to partners how rounding can be used to get estimates.	Students engage in respectful discourse with peers about various perspectives for approaching a mathematical challenge.	2-4	halfway point round	estimate explain justify	<ul style="list-style-type: none"> <li><i>Estimation Cards Teaching Resource</i></li> <li><i>Blank Number Lines Teaching Resource</i></li> </ul>	Conceptual Understanding 4.NBT.A.3
<b>Math Probe</b> <i>Rounding Numbers</i> Gather data on students' understandings of rounding multi-digit numbers.									
<b>Unit Review</b>									
<b>Fluency Practice</b>									
<b>Unit Assessment</b>									
<b>Performance Task</b>									



## PACING: 8 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Comparing Gardens</i> Explore additive and multiplicative comparisons by comparing parts of flowers.									
4-1	Understand Comparing with Multiplication	Students represent multiplication as comparison; represent multiplicative comparison statements as multiplication equations.	Students compare quantities using multiplication and use multiplication equations to represent multiplicative comparison statements using the expression <i>times as much as</i> .	Students demonstrate self-awareness of personal strengths and areas of challenge in mathematics.	4-1	Math Terms multiplicative comparison Academic Terms represent state	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>counters</li> <li><i>Number Cards 0-10 Teaching Resource</i></li> <li>number cubes</li> </ul>	Conceptual Understanding	4.OA.A.1
4-2	Represent Comparison Problems	Students use multiplication equations to represent multiplicative comparison; distinguish between multiplicative and additive comparison.	Students compose additive and multiplicative comparison problems using bar diagrams and equations and identify multiplicative and additive comparisons using the expression <i>times as much</i> .	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	4-2	additive comparison multiplicative comparison between distinguish indicate	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>connecting cubes</li> <li>counters in two colors</li> <li>index cards</li> </ul>	Application	4.OA.A.1 4.OA.A.2
4-3	Solve Comparison Problems Using Multiplication	Students solve multiplicative comparison problems by using multiplication.	Students discuss using multiplication to solve word problems involving multiplicative comparisons and represent multiplicative comparisons with bar diagrams and equations using complete sentences.	Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.	4-3	bar diagram unknown consider vary	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>counters</li> <li>number cubes</li> </ul>	Application	4.OA.A.2
4-4	Solve Comparison Problems Using Division	Students solve multiplicative comparison problems by using division.	Students discuss multiplicative comparison word problems by using division and the word <i>cost/costs</i> .	Students identify a problem, use creativity to execute problem-solving steps, and identify multiple solutions.	4-4	bar diagram unknown correspond suppose	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>counters</li> <li>index cards</li> <li>number cubes</li> </ul>	Application	4.OA.A.2
<b>Math Probe</b> <i>Comparison Problems</i> Gather data on students' understandings of using equations to represent comparison word problems.									

 Unit Review  
 Fluency Practice

 Unit Assessment  
 Performance Task

**PACING: 10 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b>  <i>What's in a Spiral</i> Explore number patterns using spirals, rectangles, and the Fibonacci sequence.										
5-1	Understand Factors of a Number	Students use their understanding of multiplication to determine all factor pairs of a whole number.	Students name all the factor pairs of a whole number using the modal <i>can</i> .	Students recognize personal strengths through thoughtful self-reflection.	5-1	<b>Math Terms</b> factor factor pairs	<b>Academic Terms</b> predict process	<ul style="list-style-type: none"> <li>• color tiles</li> <li>• index cards</li> <li>• paper clips</li> </ul>	Procedural Skill & Fluency	4.OA.B.4
<b>Math Probe</b> <i>Factors</i> Gather data on students' understandings of finding factors of a number.										
5-2	Understand Prime and Composite Numbers	Students identify a whole number as prime or composite based on the number of factor pairs it has.	Students describe the process of identifying a whole number as prime or composite using the active and passive voice.	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	5-2	composite number factor pairs prime number	categorize state	<ul style="list-style-type: none"> <li>• color tiles</li> <li>• connecting cubes</li> <li>• counters</li> <li>• grid paper</li> <li>• index cards 1–100</li> <li>• inflatable ball with numbers between 1 and 100 written on it</li> <li>• <i>Multiplication Fact Table, 0–10 Teaching Resource</i></li> </ul>	Conceptual Understanding	4.OA.B.4
5-3	Understand Multiples	Students determine whether a whole number is a multiple of a given number.	Students discuss whether a whole number is a multiple of a given number using modals of possibility.	Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.	5-3	factor multiple product	notice reasonable	<ul style="list-style-type: none"> <li>• index cards 1–100 (composite numbers only)</li> <li>• <i>Multiplication Fact Table, 0–10 Teaching Resource</i></li> <li>• white board</li> <li>• white board markers</li> </ul>	Conceptual Understanding	4.OA.B.4
5-4	Number or Shape Patterns	Students recognize, extend, and describe a number or shape pattern.	Students explain how to find a number or shape pattern using the target language <i>repeat</i> and <i>grow</i> .	Students demonstrate thoughtful reflection through identifying the causes of challenges and successes while completing a mathematical task.	5-4	pattern pattern rule sequence	examine process	<ul style="list-style-type: none"> <li>• counters in different colors</li> <li>• pattern blocks</li> <li>• <i>Patterns Teaching Resource</i></li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	4.OA.C.5
5-5	Generate a Pattern	Students generate a number or shape pattern from a given rule.	Students articulate how to generate a number or shape pattern using present tense verbs.	Students develop and execute a plan, including selecting tools for mathematical problem solving.	5-5	pattern rule term	predict represent	<ul style="list-style-type: none"> <li>• color tiles in different colors</li> <li>• connecting cubes</li> <li>• counters in different colors</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	4.OA.C.5
5-6	Analyze Features of a Pattern	Students identify and explain features of a number or shape pattern.	Students discuss features of a number or shape pattern using descriptive adjectives, including <i>striped</i> , <i>solid</i> , and <i>checkered</i> .	Students reflect on and describe the logic and reasoning used to make a mathematical decision or conclusion.	5-6	pattern rule sequence term	assess prediction	<ul style="list-style-type: none"> <li>• counters</li> <li>• craft sticks</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	4.OA.C.5
<b>Unit Review</b> <b>Fluency Practice</b> <b>Unit Assessment</b> <b>Performance Task</b>										

## PACING: 14 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Hands-On Area Puzzles</i> Students find the missing areas in four rectangular puzzles.									
6-1	Multiply by Multiples of 10, 100, or 1,000	Students identify patterns with zeros in products of 1-digit numbers and multiples of 10, 100, and 1,000.	Students explain how to multiply single-digit factors by multiples of 10, 100, and 1,000 using complete sentences.	6-1	<b>Math Terms</b> Associative Property of Multiplication multiple(s)	<b>Academic Terms</b> notice represent utilize	• base-ten blocks (rods, flats, cubes) • index cards • number cubes	Conceptual Understanding Procedural Skill & Fluency	4.NBT.B.5
6-2	Estimate Products	Students use estimation strategies such as rounding and compatible numbers to estimate products.	Students explain how to estimate products using compatible numbers and rounding using <i>about</i> .	6-2	compatible numbers rounding	accurate-focus method	• index cards • number cubes	Conceptual Understanding Procedural Skill & Fluency	4.NBT.B.5
6-3	Use the Distributive Property to Multiply	Students use array models and the Distributive Property of Multiplication to multiply two 1-digit factors.	Students explain using arrays to find products using the correct verb tenses.	6-3	decompose Distributive Property factor product	develop logical	• color tiles • counters in two colors • index cards • number cubes	Conceptual Understanding Procedural Skill & Fluency	4.NBT.B.5
6-4	Multiply 2-Digit by 1-Digit Factors	Students use the area model to determine the product of 2-digit and 1-digit factors.	Students use area models to determine the product of a multi-digit and 1-digit factor.	6-4	area model Distributive Property partial products	clarify oppose	• color tiles • grid paper • index cards • number cubes	Conceptual Understanding Procedural Skill & Fluency	4.NBT.B.5
6-5	Multiply Multi-Digit by 1-Digit Factors	Students use the area model to determine the product of a multi-digit factor and a 1-digit factor.	Students use area models to find products of multi-digit and 1-digit factors using the correct personal pronoun <i>she</i> .	6-5	area model Distributive Property partial products	reasonable represent	• color tiles • counters • grid paper • number cubes	Conceptual Understanding Procedural Skill & Fluency	4.NBT.B.5
6-6	Multiply Two Multiples of 10	Students identify patterns with zeros in products of two multiples of 10.	Students discuss how to find products of two multiples of ten using the term <i>so</i> .	6-6	Associative Property of Multiplication multiple	examine recognize	• number cubes	Conceptual Understanding Procedural Skill & Fluency	4.NBT.B.5
6-7	Multiply Two 2-Digit Factors	Students use the area model to determine the product of two 2-digit factors.	Students discuss using area models and partial products to multiply two 2-digit factors, using complex sentence structures.	6-7	area model Distributive Property partial products	reasonable represent	• index cards • <i>Multiplication Facts Table Teaching Resource</i> • number cubes	Conceptual Understanding Procedural Skill & Fluency	4.NBT.B.5
<b>Math Probe</b> <i>Estimate Products</i> Gather data on students' understandings of estimating products involving multiplication of multi-digit numbers.									
6-8	Solve Multi-Step Problems Involving Multiplication	Students represent and solve multi-step word problems involving multiplication. Representations include equations with a variable.	Students discuss their understanding of decomposing numbers to solve word problems using the correct present tense verbs.	6-8	variable	check examine	• graph paper • index cards	Conceptual Understanding Application	4.OA.A.3

 Unit Review  
 Fluency Practice

 Unit Assessment  
 Performance Task

# Division Strategies with Multi-Digit Dividends and 1-Digit Divisors

**FOCUS QUESTION:**  
How can I divide with multi-digit numbers?

**PACING:** 12 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>Interpreting Equal Shares?</i> Model division with remainders using base-ten blocks.										
7-1	Divide Multiples of 10, 100, or 1,000	Students use basic division facts, the relationship between multiplication and division, and place value to divide multiples of 10, 100, or 1,000. Students use number patterns to divide multiples of 10, 100, or 1,000.	Students discuss dividing multiples of 10, 100, and 1,000 using the term <i>tens</i> , <i>hundreds</i> , and <i>thousands</i> .	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	7-1	<b>Math Terms</b> dividend divisor multiple(s) quotient	<b>Academic Terms</b> consider notice	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>index cards</li> </ul>	Conceptual Understanding Procedural Skill & Fluency	4.NBT.B.6
7-2	Estimate Quotients	Students use compatible numbers and related division facts to estimate quotients. Students find a reasonable range for the estimate.	Students explain compatible numbers and related division facts to estimate quotients using the word <i>about</i> .	Students exchange ideas for mathematical problem-solving with a peer.	7-2	compatible numbers range	develop reasonable	<ul style="list-style-type: none"> <li>index cards</li> <li>spinners labeled 2-9</li> </ul>	Conceptual Understanding Procedural Skill & Fluency	4.NBT.B.6
7-3	Find Equal Shares	Students use the equal share meaning of division to divide 2-digit dividends by 1-digit divisors.	Students describe the equal share meaning of division and explain how to solve problems using the term <i>share</i> .	Students identify and discuss the emotions experienced during math learning.	7-3	dividend divisor equal sharing quotient	examine represent	<ul style="list-style-type: none"> <li>counters</li> <li>paper cups</li> </ul>	Conceptual Understanding Procedural Skill & Fluency	4.NBT.B.6
7-4	Understand Partial Quotients	Students use partial quotients to divide 3-digit dividends by 1-digit divisors.	Students discuss using the partial quotients strategy to find quotients using the word <i>each</i> .	Students actively listen without interruption as peers describe how they approached a task.	7-4	partial quotients	process represent	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>rectangular paper strips</li> </ul>	Conceptual Understanding Procedural Skill & Fluency	4.NBT.B.6
7-5	Divide 4-Digit Dividends by 1-Digit Divisors	Students use partial quotients to divide 4-digit dividends by 1-digit divisors.	Students discuss using the area model to represent the partial quotients strategy using models <i>can/could</i> .	Students explore taking different perspectives on approaches to problem solving.	7-5	area model partial quotients	modify process	<ul style="list-style-type: none"> <li>number cubes</li> </ul>	Conceptual Understanding Procedural Skill & Fluency	4.NBT.B.6
7-6	Understand Remainders	Students divide multi-digit whole numbers that result in a quotient and a remainder. Students explain what a remainder means in the context of the problem.	Students discuss dividing multi-digit whole numbers using partial quotients to find quotients and remainders and explain the meaning of a remainder using the term <i>left over</i> .	Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.	7-6	remainder	indicate recognize	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>index cards</li> </ul>	Conceptual Understanding Procedural Skill & Fluency	4.NBT.B.6
7-7	Make Sense of a Remainder	Students determine how to interpret the remainder of a division equation based on the context of the problem.	Students discuss how to interpret the remainder in a division problem using models <i>can/could</i> .	Students discuss and practice strategies for managing stressful situations.	7-7	remainder	consider persuade	<ul style="list-style-type: none"> <li>none</li> </ul>	Conceptual Understanding Application	4.OA.A.3
<b>Math Probe</b> <i>Interpreting Remainders</i> Gather data on students' understandings of interpreting remainders.										
7-8	Solve Multi-Step Problems Using Division	Students solve multistep word problems involving division by representing these problems using equations with a variable.	Students discuss solving multi-step word problems using equations with a variable to represent the unknown using correct subject-verb agreement.	Students identify a problem, use creativity to execute problem-solving steps, and identify multiple solutions.	7-8	variable	assess effective	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>counters</li> <li>index cards</li> </ul>	Conceptual Understanding Application	4.OA.A.3
<b>Unit Review</b>										
<b>Fluency Practice</b>										
<b>Performance Task</b>										
<b>Unit Assessment</b>										

PACING: 9 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>Unit Opener</i> <b>Folds and Fractions</b> Explore fractions through paper folding.										
<b>8-1</b>	<b>Equivalent Fractions</b>	Students use fraction models to recognize equivalent fractions and explain their equivalence by reasoning about the number of parts in the fraction and the number of parts in the whole.	Students explain equivalent fractions by reasoning about size and number of parts using complex sentences.	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	<b>8-1</b>	Math Terms equivalent fractions	Academic Terms generalize represent	• <i>Fraction Number Lines Teaching Resource</i> • index cards • <i>One-Fourth of the Whole Teaching Resource</i> • scissors • strips of paper	Conceptual Understanding	4.NF.A.1
<b>8-2</b>	<b>Generate Equivalent Fractions using Models</b>	Students use multiplication and division to generate equivalent fractions.	Students discuss how they use multiplication and division to generate equivalent fractions using correct present and past tenses.	Students identify a problem, use creativity to execute problem-solving steps, and identify multiple solutions.	<b>8-2</b>	denominator equivalent fractions numerator	consider state	• fraction circles • fraction tiles • paper strips	Conceptual Understanding	4.NF.A.1
<b>8-3</b>	<b>Generate Equivalent Fractions using Number Lines</b>	Students use number line representations with different intervals and use multiplication and division to generate equivalent fractions.	Students explain how to use number line representations using <i>can</i> .	Students develop and execute a plan, including selecting tools for mathematical problem solving.	<b>8-3</b>	denominator equivalent fractions numerator	notice represent	• <i>Fraction Number Lines Teaching Resource</i> • number cubes • paper strips	Conceptual Understanding	4.NF.A.1
<b>8-4</b>	<b>Compare Fractions using Benchmarks</b>	Students compare two fractions using the benchmark numbers 0, $\frac{1}{2}$ , and 1.	Students discuss comparing two fractions with benchmark numbers using the correct comparative adjectives.	Students demonstrate self-awareness of personal strengths and areas of challenge in mathematics.	<b>8-4</b>	benchmark fraction denominator numerator	recognize represent	• <i>Benchmark Fraction Number Lines Teaching Resource</i> • dominoes • <i>Fraction Number Lines Teaching Resource</i> • index cards	Conceptual Understanding, Procedural Skill & Fluency	4.NF.A.2
<b>8-5</b>	<b>Other Ways to Compare Fractions</b>	Students compare two fractions by generating equivalent fractions with like numerators or like denominators.	Students compare two fractions by generating equivalent fractions with like numerators or like denominators using the term <i>equivalent</i> .	Students discuss the value of hearing different viewpoints and approaches to problem solving.	<b>8-5</b>	equivalent fractions like denominators like numerators	assume essential	• fraction circles • fraction tiles • number cubes • spinner (1–10)	Conceptual Understanding, Procedural Skill & Fluency	4.NF.A.2
<b>Math Probe</b> <i>Comparing Fractions</i> Gather data on students' understanding of comparing fractions.										
<b>Fluency Practice</b> <b>Unit Review</b>										
<b>Unit Assessment</b> <b>Performance Task</b>										

# Addition and Subtraction Meanings and Strategies with Fractions

**FOCUS QUESTION:**  
How can I add and subtract fractions with like denominators?

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener Ignite</b> 🗨️ <i>Would You Rather Have ...?</i> Students construct viable arguments as they decide which fractional amount is more.										
9-1	Understand Decomposing Fractions	Students use fraction models to decompose fractions into sums of fractions with the same denominator in more than one way.	Students use sequence words to discuss how to decompose fractions with the same denominator.	Students identify personal traits that make them good students, peers, and math learners.	9-1	Math Terms addend decompose like denominators sum unit fraction	Academic Terms prediction represent	<ul style="list-style-type: none"> <li>• <i>Fraction Number Lines with Fifths Teaching Resource</i></li> <li>• fraction tiles</li> <li>• index cards</li> <li>• number cubes</li> </ul>	Conceptual Understanding Application	4.NF.B.3 4.NF.B.3.a 4.NF.B.3.b
9-2	Represent Adding Fractions	Students use fraction models to understand addition of fractions as joining parts that refer to the same whole. Students add fractions with like denominators.	Students discuss using fraction models to add fractions with like denominators using the correct units of measure.	Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.	9-2	addends like denominators sum unit fractions	contradict essential	<ul style="list-style-type: none"> <li>• <i>Blank Open Number Lines Teaching Resource</i></li> <li>• fraction circles</li> <li>• fraction tiles</li> <li>• index cards</li> </ul>	Conceptual Understanding Procedural Skill & Fluency	4.NF.B.3 4.NF.B.3.a 4.NF.B.3.d
9-3	Add Fractions with Like Denominators	Students use representations to show that the sum of fractions with like denominators can be found by adding the numerators and keeping the denominators the same.	Students use the correct units of measure to discuss finding the sum of fractions by adding numerators and keeping the denominators the same.	Students set a focused mathematical goal and make a plan for achieving that goal.	9-3	denominator numerator	suppose persuade	<ul style="list-style-type: none"> <li>• <i>Blank Open Number Lines Teaching Resource</i></li> <li>• fraction tiles</li> <li>• index cards</li> <li>• number cubes</li> </ul>	Conceptual Understanding Application	4.NF.B.3 4.NF.B.3.a 4.NF.B.3.d
9-4	Represent Subtracting Fractions	Students use fraction models to understand subtraction of fractions as separating parts that refer to the same whole. Students subtract fractions with like denominators.	Students discuss subtracting fractions with like denominators using <i>can</i> and <i>could</i> .	Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.	9-4	denominator difference numerator	distinguish between focus	<ul style="list-style-type: none"> <li>• <i>Blank Open Number Lines Teaching Resource</i></li> <li>• fraction circles</li> <li>• fraction tiles</li> </ul>	Conceptual Understanding Application	4.NF.B.3 4.NF.B.3.a 4.NF.B.3.d
9-5	Subtract Fractions with Like Denominators	Students use representations to show that the difference of fractions with like denominators can be found by subtracting the numerators and keeping the denominators the same.	Students discuss using different strategies to subtract numerators keeping the denominators the same using the terms <i>One way</i> and <i>Another way</i> .	Students identify and discuss the emotions experienced during math learning.	9-5	difference	generalize process	<ul style="list-style-type: none"> <li>• fraction circles</li> <li>• <i>Fraction Number Lines Teaching Resource</i></li> <li>• fraction tiles</li> <li>• index cards</li> <li>• number cubes</li> </ul>	Conceptual Understanding Application	4.NF.B.3 4.NF.B.3.a 4.NF.B.3.d
<b>Math Probe</b> <i>Fraction Sums and Differences</i> Gather data on students' understandings of estimating fraction sums and differences.										
9-6	Solve Problems Involving Fractions	Students solve word problems involving addition and subtraction of fractions with like denominators.	Students use the correct units of measure to solve word problems using addition and subtraction of fractions with like denominators.	Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.	9-6	difference sum	process represent	<ul style="list-style-type: none"> <li>• fraction tiles</li> <li>• number cube</li> </ul>	Conceptual Understanding Application	4.NF.B.3 4.NF.B.3.d

Unit Review  
Fluency Practice

Performance Task

# Addition and Subtraction Strategies with Mixed Numbers

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>Pattern Block Designs</i> Students create a design using pattern blocks and use fractions to find the total value.								
10-1	<i>Understand Decomposing Mixed Numbers</i>	Students use mixed numbers as another way to write fractions greater than 1. Students use fraction models to decompose a mixed number in more than one way and write equations to record their decompositions.	Students discuss using different ways to decompose a mixed number using <i>con</i> .	Students determine the strategies and analyses necessary to make informed decisions when engaging in mathematical practices.	10-1	<b>Math Terms</b> decompose mixed number confirm recognize	<ul style="list-style-type: none"> <li>fraction tiles</li> <li>transparent spinner</li> </ul>	Conceptual Understanding 4.NF.B.3 4.NF.B.3.b
10-2	<i>Represent Adding Mixed Numbers</i>	Students represent addition of mixed numbers with like denominators using fraction models.	Students discuss using fraction models to represent the addition of mixed numbers with like denominators using the correct units of measure.	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	10-2	mixed number sum approach vary	<ul style="list-style-type: none"> <li><i>Blank Number Lines 2 Teaching Resource</i></li> <li>fraction circles</li> <li>fraction tiles</li> <li>index cards</li> <li>paper strips</li> </ul>	Conceptual Understanding 4.NF.B.3 4.NF.B.3.c 4.NF.B.3.d
10-3	<i>Add Mixed Numbers</i>	Students add mixed numbers using various strategies, such as using equivalent fractions that are greater than 1 and decomposing the mixed numbers.	Students discuss strategies for adding mixed numbers using <i>one way/another way</i> .	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	10-3	equivalent fractions regroup method reasonable	<ul style="list-style-type: none"> <li>fraction circles</li> <li>fraction tiles</li> <li>number cubes</li> <li>paper strips</li> </ul>	Procedural Skill & Fluency 4.NF.B.3 4.NF.B.3.c 4.NF.B.3.d
10-4	<i>Represent Subtracting Mixed Numbers</i>	Students represent subtraction of mixed numbers with like denominators using fraction models.	Students explain how to model subtraction of mixed numbers with like denominators using the word <i>difference</i> .	Students recognize and work to understand the emotions of others and practice empathetic responses.	10-4	difference mixed number assumption represent	<ul style="list-style-type: none"> <li><i>Blank Number Lines 2 Teaching Resource</i></li> <li>fraction circles</li> <li>fraction tiles</li> <li>index cards</li> <li>paper strips</li> </ul>	Conceptual Understanding 4.NF.B.3 4.NF.B.3.c 4.NF.B.3.d
10-5	<i>Subtract Mixed Numbers</i>	Students subtract mixed numbers using various strategies, such as using equivalent fractions and related addition equations.	Students explain subtracting mixed numbers using <i>count/counted on</i> .	Students recognize personal strengths through thoughtful self-reflection.	10-5	equivalent fractions check efficient	<ul style="list-style-type: none"> <li><i>Blank Number Lines 2 Teaching Resource</i></li> <li>fraction circles</li> <li>fraction tiles</li> <li>number cubes</li> <li>paper strips</li> </ul>	Procedural Skill & Fluency 4.NF.B.3 4.NF.B.3.c 4.NF.B.3.d
10-6	<i>Solve Problems Involving Mixed Numbers</i>	Students represent and solve word problems involving addition and subtraction of mixed numbers with like denominators.	Students discuss adding and subtracting mixed numbers with like denominators using the correct units of measure.	Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.	10-6	bar diagram variable method process	<ul style="list-style-type: none"> <li>index cards</li> <li><i>Problem Solving Tool Teaching Resource</i></li> </ul>	Application 4.NF.B.3 4.NF.B.3.d

**Math Probe** *Word Problems with Mixed Numbers* Gather data on students' understanding of solving word problems involving mixed numbers.

**Unit Review**  
**Fluency Practice**

**Unit Assessment**  
**Performance Task**

# Multiply Fractions by Whole Numbers

**PACING:** 9 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Unit Opener</i> Fraction Patterns									
<b>11-1</b>	Represent Multiplication of a Unit Fraction by a Whole Number	Students apply their understanding of fractions and multiplication to multiply a unit fraction by a whole number. Students use fraction models to represent a fraction as a multiple of a unit fraction.	Students discuss representations to multiply unit fractions and whole numbers using correct present and past tense verbs.	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	<b>11-1</b>	<b>Math Terms</b> denominator multiple numerator unit fraction  <b>Academic Terms</b> efficient process	<ul style="list-style-type: none"> <li>fraction tiles</li> <li>index cards</li> <li>number cubes</li> </ul>	Conceptual Understanding Procedural Skill & Fluency	4.NF.B.4 4.NF.B.4.a
<b>11-2</b>	Understand Multiplying a Fraction by a Whole Number	Students multiply a fraction by a whole number using visual fraction models. Students write multiples of fractions as multiples of a unit fraction.	Students discuss using representations to multiply fractions by whole numbers using correct subject and verb agreement.	Students break down a situation to identify the problem at hand.	<b>11-2</b>	equal groups multiple unit fraction  approach representation	<ul style="list-style-type: none"> <li><i>Blank Number Lines Teaching Resource</i></li> <li>fraction tiles</li> <li>number cubes</li> </ul>	Conceptual Understanding Procedural Skill & Fluency Application	4.NF.B.4 4.NF.B.4.b 4.NF.B.4.c
<b>11-3</b>	Multiply a Fraction by a Whole Number	Students use their understanding of fractions as multiples of unit fractions to multiply a fraction by a whole number.	Students explain multiplying a fraction by a whole number by expressing the fractions as a multiple of a unit fraction using complete sentences.	Students explore taking different perspectives on approaches to problem solving.	<b>11-3</b>	Associative Property of Multiplication multiple  effective method	<ul style="list-style-type: none"> <li><i>Blank Number Lines Teaching Resource</i></li> <li>fraction circles</li> <li>fraction tiles</li> <li>number cubes</li> <li>spinner</li> </ul>	Conceptual Understanding Procedural Skill & Fluency	4.NF.B.4 4.NF.B.4.a 4.NF.B.4.b
<b>11-4</b>	Multiply a Mixed Number by a Whole Number	Students multiply mixed numbers by whole numbers by using strategies, such as equivalent fractions and decomposing the mixed number into whole number and fractional parts.	Students articulate multiplying mixed numbers by whole numbers problems using <i>can</i> and <i>should</i> .	Students demonstrate self-awareness of personal strengths and areas of challenge in mathematics.	<b>11-4</b>	Distributive Property of Multiplication mixed number  check utilize	<ul style="list-style-type: none"> <li>fraction circles</li> <li>fraction tiles</li> <li>index cards</li> <li>number cubes</li> </ul>	Conceptual Understanding Procedural Skill & Fluency	4.NF.B.4 4.NF.B.4.a 4.NF.B.4.b
<b>Math Probe</b> <i>Which is Greater?</i> Gather data on students' understandings of multiplying fractions by whole numbers.									
<b>11-5</b>	Solve Problems Involving Fractions and Mixed Numbers	Students represent and solve word problems involving multiplying fractions by whole numbers with visual fraction models and multiplication equations.	Students discuss multiplication of fractions and mixed numbers by whole numbers using sequence words <i>first</i> and <i>then</i> .	Students set learning goals and initiate work on tasks to accomplish their goals.	<b>11-5</b>	fraction multiple unit fraction  indicate represent	<ul style="list-style-type: none"> <li>fraction circles</li> <li>fraction tiles</li> </ul>	Application	4.NF.B.4 4.NF.B.4.c

**Unit Review**

**Fluency Practice**

**Unit Assessment**

**Performance Task**

PACING: 9 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>Hundred Cover Up</i> Explore ways to cover a $10 \times 10$ grid with smaller rectangles.										
12-1	Understand Tenths and Hundredths	Students represent fractions with denominators of 10 and denominators of 100 using fraction models; express a fraction with a denominator of 10 as an equivalent fraction with a denominator of 100.	Students discuss representations of fractions with a denominator of 10 and 100 using <i>con</i> .	Students discuss the value of hearing different viewpoints and approaches to problem solving.	12-1	Math Terms equivalent fractions hundredths one-hundredth one-tenth tenths	Academic Terms notice represent	<ul style="list-style-type: none"> <li><i>Tenths and Hundredths Representations Teaching Resource</i></li> </ul>	Conceptual Understanding	4.NF.C.5
12-2	Understand Decimal Notation	Students express fractions with denominators of 10 or 100 using decimal notation; extend the place-value chart to hundredths, and use place-value reasoning to understand that the decimal point separates the ones place from the tenths place.	Students represent tenths and hundredths as fractions and decimals using target vocabulary: <i>decimal</i> .	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	12-2	decimal decimal point hundredths tenths	essential vary	<ul style="list-style-type: none"> <li><i>Bills, Dimes, and Pennies Teaching Resource</i></li> <li><i>Decimal Place-Value Charts Teaching Resource</i></li> <li>spinner</li> <li><i>Tenths and Hundredths Representations Teaching Resource</i></li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	4.NF.C.6
12-3	Compare Decimals	Students compare two decimals using representations, such as decimal grids and number lines; compare two decimals by expressing the decimals as fractions.	Students compare decimals using the correct comparative adjectives.	Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.	12-3	decimal equivalent fractions	confirm represent	<ul style="list-style-type: none"> <li><i>10 × 10 Grids Teaching Resource</i></li> <li><i>Blank Number Lines Teaching Resource</i></li> <li>number cubes</li> </ul>	Conceptual Understanding	4.NF.C.7
<b>Math Probe</b> <i>Decimal and Fraction Comparison</i> Gather data on students' understandings of comparing fractions to decimals.										
12-4	Adding Decimals Using Fractions	Students use equivalent fractions to add fractions with denominators of 10 and 100.	Students use correct subject-verb agreement to discuss using equivalent fractions.	Students identify personal traits that make them good students, peers, and math learners.	12-4	equivalent fractions hundredths tenths	clarify suppose	<ul style="list-style-type: none"> <li>colored pencils</li> <li>number cubes</li> <li><i>Tenths and Hundredths Representations Teaching Resource</i></li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	4.NF.C.5
12-5	Solve Problems Involving Money	Students solve problems involving money using the relationship between tenths and hundredths by representing with dollars, dimes, and pennies.	Students use correct verb tenses to discuss the relationship between tenths and hundredths.	Students determine the strategies and analyses necessary to make informed decisions when engaging in mathematical practices.	12-5	cents decimal dollars	approach argue	<ul style="list-style-type: none"> <li><i>Bills, Dimes, and Pennies Teaching Resource</i></li> <li><i>Decimal Place-Value Charts Teaching Resource</i></li> <li>number cubes</li> </ul>	Application	4.MD.A.2
<b>Unit Review</b> <b>Fluency Practice</b>										
<b>Unit Assessment</b> <b>Performance Task</b>										

PACING: 15 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>Math Probe</i> Measurement Number Lines Explore relationships between various units of measure on dual number lines.										
13-1	Relate Metric Units	Students convert larger metric units of length, liquid volume, and mass to smaller equivalent units.	Students use metric prefixes and terms for length, liquid volume, and mass to discuss converting larger metric units into smaller equivalent units.	Students use prior knowledge and new understanding of mathematical concepts to complete a task, building stronger self-efficacy.	13-1	<b>Math Terms</b> centimeters convert grams kilograms kiloliters liters meters metric units milliliters millimeters	<b>Academic Terms</b> argue efficient	• base-ten blocks • meter stick • <i>Metric Conversion Tables Teaching Resource</i>	Conceptual Understanding Procedural Skill & Fluency	4.MD.A.1
13-2	Relate Customary Units of Weight	Students express larger units of weight in terms of smaller units.	Students use the correct units of weight to discuss expressing larger units of weight in terms of smaller units.	Students reflect on and describe the logic and reasoning used to make a mathematical decision or conclusion.	13-2	customary unit equivalence table ounces pound ton weight	represent utilize	• <i>Customary Conversion Tables Teaching Resource</i> • number cubes	Conceptual Understanding Procedural Skill & Fluency	4.MD.A.1 4.MD.A.2
13-3	Relate Customary Units of Capacity	Students express larger units of capacity in terms of smaller units.	Students use the correct units of capacity to discuss expressing larger units of capacity in terms of smaller units.	Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.	13-3	capacity cup customary unit gallon pint quart	process vary	• <i>Customary Conversion Tables Teaching Resource</i> • number cubes	Conceptual Understanding Procedural Skill & Fluency	4.MD.A.1
13-4	Convert Units of Time	Students express larger units of time in terms of smaller units.	Students use the correct units of time to discuss expressing larger units of time in terms of smaller units.	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	13-4	days equivalence table hours minutes seconds	confirm modify	• <i>Customary Conversion Tables Teaching Resource</i>	Conceptual Understanding Application	4.MD.A.1
13-5	Solve Problems That Involve Units of Measure	Students solve word problems that involve converting metric units of measure by using representations.	Students discuss solving word problems using the correct metric units of measure.	Students recognize and work to understand the emotions of others and practice empathetic responses.	13-5	bar diagram number line	logical prediction	• <i>Metric Conversion Tables Teaching Resource</i> • number cubes	Procedural Skill & Fluency Application	4.MD.A.2
<b>Math Probe</b> Measuring Length in Inches Gather data on students' understandings of customary units of length.										
13-6	Solve More Problems That Involve Units of Measure	Students use representations to solve word problems that involve converting units of measure.	Students discuss solving problems involving converting units of time using the correct units of time.	Students identify and discuss the emotions experienced during math learning.	13-6	elapsed time time interval	indicate reasonable	• <i>Customary Conversion Tables Teaching Resource</i> • number cubes	Procedural Skill & Fluency Application	4.MD.A.2
13-7	Solve Problems Using a Perimeter Formula	Students use the formula for the perimeter of a rectangle. Students use the formula to solve real-world problems.	Students discuss using the formula for the perimeter of a rectangle using the terms <i>length</i> and <i>width</i> .	Students set learning goals and initiate work on tasks to accomplish their goals.	13-7	formula length perimeter width	distinguish between	• craft sticks	Procedural Skill & Fluency Application	4.MD.A.3
13-8	Solve Problems Using an Area Formula	Students use the formula for the area of a rectangle. Students use the formula to solve real-world problems.	Students discuss using the formula for the area of a rectangle using the correct units of measure.	Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.	13-8	area formula length rectangle square units unit squares width	examine utilize	• color tiles • graph paper • rectangles with side lengths labeled	Procedural Skill & Fluency Application	4.MD.A.3
13-9	Solve Problems Involving Perimeter and Area	Students solve real-world problems by applying the area and perimeter formulas.	Students discuss solving real-world problems by applying area and perimeter formulas using the terms <i>length</i> , <i>width</i> , <i>area</i> , and <i>perimeter</i> .	Students set learning goals and initiate work on tasks to accomplish their goals.	13-9	area formula perimeter rectangle variable	argue process	• color tiles • graph paper	Procedural Skill & Fluency Application	4.MD.A.3 4.OA.A.3
13-10	Display and Interpret Data on a Line Plot	Students create line plots to display measurement data sets in fractions of a unit. Students interpret measurement data displayed on a line plot to answer questions.	Students discuss creating line plots to display measurement data sets in fractions of a unit using the term <i>measurement data</i> .	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	13-10	data eighth(s) fourth(s) interval line plot scale	distinguish between indicate	• <i>Blank Number Lines 2 Teaching Resource</i> • rulers	Procedural Skill & Fluency Application	4.MD.B.4
13-11	Solve Problems Involving Data on a Line Plot	Students solve problems involving addition and subtraction of fractions based on analysis of data displayed in line plots.	Students discuss creating line plots involving addition and subtraction of fractions of measurements using the term <i>measurement data</i> .	Students develop and execute a plan, including selecting tools for mathematical problem solving.	13-11	eighth(s) fourth(s) like denominators line plot	display examine	• none	Procedural Skill & Fluency Application	4.MD.B.4

 Unit Review  
 Fluency Practice

Unit Assessment

PACING: 16 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>Repeating Shapes</i>	Students explore shapes created by connecting the midpoints of polygons.							
<b>14-1</b> Understand Lines, Line Segments, and Rays	Students identify and draw points, lines, line segments, and rays.	Students use the term <i>figure</i> to discuss points, lines, line segments, and rays.	Students explore taking different perspectives on approaches to problem-solving.	<b>14-1</b>	<b>Math Terms</b> endpoint line line segment point ray	<b>Academic Terms</b> examine indicate	• geoboards • poster board	Conceptual Understanding 4.G.A.1
<b>14-2</b> Classify Angles	Students recognize that an angle is formed when two rays share a common endpoint and they classify angles as right, acute, or obtuse.	Students use the terms <i>right</i> , <i>acute</i> , and <i>obtuse</i> to discuss and classify angles.	Students discuss and practice strategies for managing stressful situations.	<b>14-2</b>	acute angle angle endpoint obtuse angle ray right angle	distinguish between notice	• poster board • student clocks	Conceptual Understanding 4.G.A.1 4.MD.C.5 4.MD.C.5.a
<b>14-3</b> Draw and Measure Angles	Students recognize that an angle's measure is the number of degrees one ray rotates about the endpoint. Students measure angles.	Students use the terms <i>measure</i> and <i>degrees</i> to discuss an angle's measurement.	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	<b>14-3</b>	angle degrees endpoint protractor ray	confirm notice	• full-circle protractor • half-circle protractor • pictures of a circular object	Procedural Skill & Fluency 4.MD.C.5 4.MD.C.5.a 4.MD.C.5.b 4.MD.C.6
<b>14-4</b> Understand Parallel and Perpendicular Lines	Students draw and identify perpendicular and parallel lines.	Students use the terms <i>perpendicular</i> and <i>parallel</i> to discuss lines.	Students recognize personal strengths through thoughtful self-reflection.	<b>14-4</b>	lines parallel lines perpendicular lines	distinguish between examine	• magazines • newspapers • poster board • protractor • ruler	Procedural Skill & Fluency 4.G.A.1
<b>14-5</b> Add and Subtract Angle Measures	Students decompose an angle into two or more angles and recognize that the whole angle is the sum of the decomposed angles.	Students discuss decomposing angles using the word <i>smaller</i> .	Students use prior knowledge and new understanding of mathematical concepts to complete a task, building stronger self-efficacy.	<b>14-5</b>	angle degrees protractor	confirm process	• half-circle protractor • pictures of objects with 90° angles • ruler	Conceptual Understanding Procedural Skill & Fluency Application 4.MD.C.7
<b>14-6</b> Solve Problems Involving Unknown Angle Measures	Students represent and solve problems involving an unknown angle measure using an equation with a variable.	Students discuss solving problems involving unknown angle measures using the terms <i>combined</i> and <i>unknown</i> .	Students recognize and work to understand the emotions of others and practice empathetic responses.	<b>14-6</b>	angle degrees	examine focus	• pattern blocks • protractor • ruler	Conceptual Understanding Procedural Skill & Fluency Application 4.MD.C.7
<b>14-7</b> Classify Polygons	Students identify properties of quadrilaterals and classify them based on these properties.	Students discuss quadrilaterals based on the presence or absence of parallel and perpendicular lines using the term <i>classify</i> .	Students break down a situation to identify the problem at hand.	<b>14-7</b>	parallel lines parallelogram perpendicular lines trapezoid	highlight utilize	• <i>Dot Paper</i> Teaching Resource • geoboards • scissors	Procedural Skill & Fluency 4.G.A.1 4.G.A.2
<b>14-8</b> Classify Triangles	Students use side lengths and angle size to classify triangles.	Students compare triangle types using the term <i>angles</i> and <i>sides</i> .	Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.	<b>14-8</b>	acute triangle equilateral triangle isosceles triangle obtuse triangle right triangle scalene triangle	distinguish between process	• <i>Dot Paper</i> Teaching Resource • geoboards • index cards	Procedural Skill & Fluency 4.G.A.1 4.G.A.2
<b>Math Probe</b> <i>Classifying Shapes</i>	Gather data on students' understandings of classifying 2-dimensional shapes.							
<b>14-9</b> Understand Line Symmetry	Students identify lines of symmetry on 2-dimensional figures.	Students identify lines of symmetry on 2-dimensional figures using the expression <i>line of symmetry</i> .	Students demonstrate thoughtful reflection through identifying the causes of challenges and successes while completing a mathematical task.	<b>14-9</b>	line of symmetry symmetrical	prediction process	• <i>Alphabet Letters</i> Teaching Resource • construction paper • mirrors or mirrors • scissors	Conceptual Understanding Procedural Skill & Fluency 4.G.A.3
<b>14-10</b> Draw Lines of Symmetry	Students draw lines of symmetry on 2-dimensional figures. Students identify attributes of 2-dimensional figures that are symmetrical.	Students use the term <i>attribute</i> to identify 2-dimensional figures that are symmetrical.	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	<b>14-10</b>	line of symmetry symmetrical	consider recognize	• construction paper • scissors	Conceptual Understanding Procedural Skill & Fluency 4.G.A.3

## PACING: 8 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b>  Map II Explore how many different colors are needed to color a region so that no adjacent spaces are the same color.										
1-1	Math Is Mine	Students discuss the role of math in their and other people's lives.	Students talk about how to use math while answering <i>Wh-</i> questions.	Students describe their feelings and attitudes toward mathematics.	1-1	Math Terms hobby  Academic Terms interview	<ul style="list-style-type: none"> <li>• bowl</li> <li>• letter-size paper cut into quarters</li> </ul>	Conceptual Understanding	4.OA.C.5	
1-2	Math Is Exploring and Thinking	Students discuss approaches for making sense of a problem and determining strategies for solving it. Students look for connections among quantities.	Students talk about making sense of a problem and represent it in different ways while answering <i>Wh-</i> questions and using <i>another way</i> .	Students recognize when they feel frustration during math class.	1-2	strategy	analyze	<ul style="list-style-type: none"> <li>• coins: nickels, dimes, and quarters</li> </ul>	Conceptual Understanding	4.NF.B.4 4.NF.B.4.c
1-3	Math Is in My World	Students consider different ways to use mathematics to represent a real-world situation.	Students explain and show real-world phenomena with mathematical models while answering <i>Wh-</i> questions and using <i>visualize</i> and <i>represent</i> as needed.	Students show appreciation for the different perspectives of their classmates.	1-3	grid model	visualize	<ul style="list-style-type: none"> <li>• none</li> </ul>	Conceptual Understanding	4.NF.B.3.d
1-4	Math Is Explaining and Sharing	Students refine their skills in constructing arguments to support their thinking. Students respond to the ideas and arguments of others.	Students discuss arguments to support their thinking while answering <i>Wh-</i> questions and using <i>carefully</i> as needed and able.	Students practice showing respect for classmates as they share ideas and thinking.	1-4	fractional	critique justify defend	<ul style="list-style-type: none"> <li>• none</li> </ul>	Conceptual Understanding	4.NF.A.2
1-5	Math Is Finding Patterns	Students consider strategies for uncovering patterns and for using patterns to solve problems. Students consider efficient strategies derived from repeated reasoning.	Students talk about strategies for uncovering patterns and for using patterns to solve problems while answering <i>Wh-</i> and <i>Yes/No</i> questions and using the verb <i>can</i> as needed.	Students practice self-control as they learn to take turns when sharing ideas with a partner or in a group.	1-5		efficient generalizations	<ul style="list-style-type: none"> <li>• none</li> </ul>	Conceptual Understanding	4.OA.C.5
1-6	Math Is Ours	Students discuss classroom norms of interaction for a productive learning environment.	Students talk about the behaviors and mindsets that contribute to a productive learning environment while answering <i>Wh-</i> and <i>Yes/No</i> questions and using the verb <i>disagree</i> and the adverb <i>respectfully</i> as needed.	Students make decisions about classroom norms for working productively with classmates.	1-6		norms responsibility	<ul style="list-style-type: none"> <li>• geoboards or <i>Dot Paper Teaching Resource</i></li> <li>• pattern blocks or <i>Pattern Blocks 2 Teaching Resource</i></li> </ul>	Conceptual Understanding	4.NF.B.3.d

## Unit Review

## Fluency Practice

## PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b>  <b>Painted Cubes</b> Students use connecting cubes to build a cube. They relate what they build to volume.									
2-1	Understand Volume	Students understand volume is a measurable attribute of 3-dimensional figures. Students understand that a rectangular prism can be packed using unit cubes with no gaps or overlaps to establish volume.	• Students talk about ways to measure volume using the verb <i>find</i> .	Students use prior knowledge and new understanding of mathematical concepts to complete a task, building stronger self-efficacy.	2-1	<b>Math Terms</b> rectangular prism unit cube volume	<b>Academic Terms</b> analyze establish	• Nets Teaching Resource • centimeter cubes • marbles, beans, or other measurement units	Conceptual Understanding 5.MD.C.3 5.MD.C.3.a
2-2	Use Unit Cubes to Determine Volume	Students determine the volume of a rectangular prism by counting unit cubes. Students determine the volume of a rectangular prism by multiplying the number of unit cubes in one layer by the number of layers.	• Students discuss how to determine the volume of any 3-dimensional solid by counting unit cubes while answering <i>Wh-</i> questions.	Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.	2-2	cubic unit unit cube volume	debate suggest	• centimeter cubes • Nets Teaching Resource	Conceptual Understanding 5.MD.C.3.a 5.MD.C.3.b 4.MD.C.4 Procedural Skill & Fluency
2-3	Use Formulas to Determine Volume	Students determine the volume of rectangular prisms using formulas.	• Students explain how to determine the volume of rectangular prisms using formulas while answering <i>Wh-</i> and <i>Yes/No</i> questions and using the term <i>dimensions</i> .	Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.	2-3	base (of a solid) formula	assert evaluate	• cubes	Conceptual Understanding 5.MD.C.5.a 5.MD.C.5.b Procedural Skill & Fluency Application
<b>Math Probe</b> <b>Volume of Rectangular Prisms</b> Gather data on students' understanding of determining volume of rectangular prisms.									
2-4	Determine Volume of Composite Figures	Students determine the volume of composite solid figures.	• Students discuss how to determine the volume of composite solid figures while answering <i>Wh-</i> questions.	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	2-4	composite solid figure formula	complex speculate	• Nets Teaching Resource • ruler • unit cubes	Conceptual Understanding 5.MD.C.5.c Procedural Skill & Fluency Application
2-5	Solve Problems Involving Volume	Students apply the volume formulas to solve real-world problems involving rectangular prisms.	• Students talk about applying the volume formula to solve real-world problems using the adjective <i>given</i> .	Students determine the strategies and analyses necessary to make informed decisions when engaging in mathematical practices.	2-5	equation formula unknown variable	relevant valid	• <i>Problem-Solving Task</i> Teaching Resource	Procedural Skill & Fluency Application 5.MD.C.5.b
<b>Unit Review</b> <b>Fluency Practice</b> <b>Unit Assessment</b> <b>Performance Task</b>									



## PACING: 14 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>How Far?</i> Estimate the width of the classroom using the number of steps.										
4-1	Estimate Sums and Differences of Decimals	Students estimate decimal sums and differences using the same strategies used with whole number sums and differences.	Students discuss estimating sums and differences of decimals while answering <i>Wh-</i> questions and using the verb <i>rounding</i> .	Students set a focused mathematical goal and make a plan for achieving that goal.	4-1	Math Terms decimal estimate	Academic Terms analyze infer reasonable	• <i>Decimal Cards Teaching Resource</i>	Conceptual Understanding Procedural Skill & Fluency	5.NBT.B.7
<b>Math Probe</b> <i>Estimating Decimal Sums and Differences</i> Use estimation to determine if the sum of two decimal numbers is greater than or less than a benchmark number.										
4-2	Represent Addition of Decimals	Students use decimal grids to represent addition of decimals with the same number of decimal places.	Students discuss using decimal grids to represent addition of decimals while answering <i>Wh-</i> and <i>Yes/No</i> questions.	Students identify and discuss the emotions experienced during math learning.	4-2	decimal grid hundredths tenths	benefit drawback evaluate	• number cube • <i>Tenths and Hundredths Teaching Resource</i>	Conceptual Understanding Procedural Skill & Fluency	5.NBT.B.7
4-3	Represent Addition of Tenths and Hundredths	Students use decimal grids to represent addition of decimals with different numbers of decimal places.	Students discuss using decimal grids to add decimals while answering <i>Wh-</i> questions and using the adjective <i>similar</i> .	Students collaborate with peers to complete a mathematical task and offer constructive feedback to the idea posed by others.	4-3	decimal grid	debate infer	• base-ten blocks • decimal grid • <i>10 × 10 Teaching Resource</i>	Conceptual Understanding Procedural Skill & Fluency	5.NBT.B.7
4-4	Use Partial Sums to Add Decimals	Students use addition strategies they know, such as partial sums, to add decimals.	Students discuss addition strategies, such as partial sums, to add decimals while answering <i>Wh-</i> questions.	Students recognize and work to understand the emotions of others and practice empathetic responses.	4-4	decompose partial sums	emphasize procedure	• <i>Decimal Cards Teaching Resource</i>	Conceptual Understanding Procedural Skill & Fluency	5.NBT.B.7
4-5	Represent Subtraction of Decimals	Students use decimal grids to represent subtraction of decimals with the same number of decimal places.	Students explain how to use decimal grids to represent subtraction of decimals while answering <i>Wh-</i> and using <i>how much</i> .	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	4-5	decimal grid	assert prove	• <i>Blank Number Lines Teaching Resource</i> • <i>Tenths and Hundredths Teaching Resource</i> • number cubes	Conceptual Understanding Procedural Skill & Fluency	5.NBT.B.7
4-6	Represent Subtraction of Tenths and Hundredths	Students use decimal grids to represent subtraction of decimals with different numbers of decimal places.	Students discuss using patterns to solve problems while answering <i>Wh-</i> questions and using <i>longer</i> .	Students break down a situation to identify the problem at hand.	4-6	decimal grid	accurate evaluate	• <i>Decimal Grids Teaching Resource</i> • <i>10 × 10 Teaching Resource</i>	Conceptual Understanding Procedural Skill & Fluency	5.NBT.B.7
4-7	Strategies to Subtract Decimals	Students can use subtraction strategies they know, such as partial differences, to subtract decimals.	Students discuss using subtraction strategies while answering <i>Wh-</i> and <i>Yes/No</i> questions and using adjectives such as <i>efficient</i> and <i>easier</i> .	Students recognize personal strengths through thoughtful self-reflection.	4-7	decompose	analyze prove	• <i>Blank Open Number Lines Teaching Resource</i> • <i>Decimal Cards Teaching Resource</i>	Conceptual Understanding Procedural Skill & Fluency	5.NBT.B.7
4-8	Explain Strategies to Add and Subtract Decimals	Students can explain their choice of strategy to solve.	Students discuss their choice of strategy to solve a problem while answering <i>Wh-</i> questions and using the adjective <i>efficient</i> .	Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing feedback.	4-8	decomposition partial sums	evaluate procedure	• <i>Explain and Show Your Strategies Teaching Resource</i>	Conceptual Understanding Procedural Skill & Fluency	5.NBT.B.7
<b>Unit Review</b> <b>Fluency Practice</b> <b>Unit Assessment</b> <b>Performance Task</b>										

# UNIT 5 PLANNER

## Multiply Multi-Digit Whole Numbers

**FOCUS QUESTION:**  
How can I multiply multi-digit numbers?

**PACING: 12 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <b>Mile-High Pennies</b> Review estimation and multiplication skills using stacks of pennies.										
<b>5-1</b>	Understand Powers and Exponents	Students write a power of 10 as a multiplication expression with factors of 10. Students write a power of 10 using a base of 10 and exponents.	Students explain the steps to take to write a power of 10 as a multiplication expression while using the passive voice.	Students demonstrate self-awareness of personal strengths and areas of challenge in mathematics.	<b>5-1</b>	<b>Math Terms</b> base exponent exponential form power of 10	<b>Academic Terms</b> accurate prove	<ul style="list-style-type: none"> <li>number cubes</li> </ul>	Conceptual Understanding Procedural Skill & Fluency	5.NBT.A.2
<b>5-2</b>	Patterns When Multiplying a Whole Number by Powers of 10	Students use patterns to determine products when multiplying whole numbers by powers of 10. Students explain patterns in the products when multiplying whole numbers by powers of 10.	Students talk about the patterns they see in products while answering <i>Wh-</i> questions.	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	<b>5-2</b>	base exponent factor power of 10	cite establish	<ul style="list-style-type: none"> <li>calculators</li> <li>index cards</li> </ul>	Conceptual Understanding Procedural Skill & Fluency	5.NBT.A.2
<b>5-3</b>	Estimate Products of Multi-Digit Factors	Students estimate products of multi-digit factors using the same strategies used to estimate products of lesser factors. Students use estimated products to make predictions about a calculated solution. Students use estimated product to assess the reasonableness of a calculated solution.	Students discuss estimating products while answering <i>Wh-</i> questions.	Students determine the strategies and analyses necessary to make informed decisions when engaging in mathematical practices.	<b>5-3</b>	estimate round	accurate relevant	<ul style="list-style-type: none"> <li>calculators</li> <li>index cards</li> <li>number cubes</li> </ul>	Procedural Skill & Fluency	5.NBT.B.5
<b>5-4</b>	Use Area Models to Multiply Multi-Digit Factors	Students use an area model to determine partial products and add partial products to calculate the product.	Students explain how to use an area model to multiply while answering <i>Wh-</i> questions.	Students explore taking different perspectives on approaches to problem solving.	<b>5-4</b>	area model decompose partial products	debate speculate	<ul style="list-style-type: none"> <li>none</li> </ul>	Procedural Skill & Fluency	5.NBT.B.5
<b>5-5</b>	Use Partial Products to Multiply Multi-Digit Factors	Students determine partial products by decomposing the factors and add partial products to calculate the product.	Students discuss how to solve multiplication equations using partial products while answering <i>Wh-</i> and <i>Yes/No</i> questions.	Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.	<b>5-5</b>	area model partial products	analyze suggest	<ul style="list-style-type: none"> <li>number cubes</li> </ul>	Procedural Skill & Fluency	5.NBT.B.5
<b>5-6</b>	Relate Partial Products to an Algorithm	Students use an algorithm to multiply multi-digit factors by a one-digit factor. Students understand and explain a multiplication algorithm.	Students discuss strategies to multiply while using <i>as...as</i> .	Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.	<b>5-6</b>	algorithm partial products regroup	procedure prove	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>number cubes</li> </ul>	Procedural Skill & Fluency	5.NBT.B.5
<b>Math Probe</b> <b>Multiplication of 2-Digit Numbers</b> Determine if a given strategy is a correct approach to find the product of two 2-digit numbers.										
<b>5-7</b>	Multiply Multi-Digit Factors Fluently	Students use an algorithm to multiply two multi-digit factors.	Students explain how to use an algorithm to multiply while answering <i>Wh-</i> and <i>Yes/No</i> questions.	Students identify and discuss the emotions experienced during math learning.	<b>5-7</b>	algorithm	analyze note transition	<ul style="list-style-type: none"> <li><i>Multiplication Algorithm Teaching Resource</i></li> <li>number cubes</li> </ul>	Procedural Skill & Fluency	5.NBT.B.5
<b>Unit Review</b> <b>Fluency Practice</b> <b>Unit Assessment</b> <b>Performance Task</b>										

**PACING: 10 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>Area and Decimal Multiplication</i> Explore area of rectangles on a grid to learn to place a decimal point in decimal multiplication.										
<b>6-1</b>	<b>Patterns When Multiplying Decimals by Powers of 10</b>	Students use patterns to multiply a decimal by a power of 10. Students explain patterns when multiplying a decimal by a power of 10.	Students explain how to use patterns to multiply a decimal by a power of 10 with the <i>gerund</i> using.	Students recognize and work to understand the emotions of others and practice empathetic responses.	<b>6-1</b>	Math Terms exponent factor product	Academic Terms analyze reflect	+ calculator + number cubes: 1 whole number cube, 1 decimal cube + place-value charts	Conceptual Understanding, Procedural Skill & Fluency	5.NBT.A.2
<b>6-2</b>	<b>Estimate Products of Decimals</b>	Students estimate products of decimals. Students use estimated products to make predictions about a calculated solution. Students use estimated products to assess the reasonableness of a calculated solution.	Students discuss how to estimate products of two decimals using <i>by + gerund</i> .	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	<b>6-2</b>	estimate range round	cite speculate	+ <i>Blank Open Number Lines</i> + number cubes	Conceptual Understanding, Procedural Skill & Fluency	5.NBT.B.7
<b>6-3</b>	<b>Represent Multiplication Involving Decimals</b>	Students use decimal grids to represent and solve multiplication equations involving decimals.	Students discuss how to solve multiplication equations using decimal grids while answering <i>Wh-</i> and <i>Yes/No</i> questions.	Students identify personal traits that make them good students, peers, and math learners.	<b>6-3</b>	decimal grid partition	complex negate	+ <i>Blank Open Number Lines Teaching Resource</i> + <i>10 × 10 Grids Teaching Resource</i> + number cubes	Conceptual Understanding, Procedural Skill & Fluency	5.NBT.B.7
<b>Math Probe</b> <i>Decimal Multiplication</i> Estimate products of decimal numbers.										
<b>6-4</b>	<b>Use an Area Model to Multiply Decimals</b>	Students use an area model to determine partial products and add partial products to calculate the product of two decimals.	Students discuss using area models to solve multiplication problems while answering <i>Wh-</i> and <i>Yes/No</i> questions and using the term <i>decompose</i> .	Students discuss and practice strategies for managing stressful situations.	<b>6-4</b>	area area model decompose partial product	complement evaluate	+ base-ten blocks + 0.5 cm grid paper	Conceptual Understanding, Procedural Skill & Fluency	5.NBT.B.7
<b>6-5</b>	<b>Generalizations about Multiplying Decimals</b>	Students use patterns based on place value concepts and properties of operations to determine the placement of the digits in a product.	Students explain how to use patterns in calculations to multiply decimals by making generalizations.	Students reflect on and describe the logic and reasoning used to make a mathematical decision or conclusion.	<b>6-5</b>	area model digit partial product	assert expand	+ place-value charts	Conceptual Understanding, Procedural Skill & Fluency	5.NBT.B.7
<b>6-6</b>	<b>Explain Strategies to Multiply Decimals</b>	Students can explain their reasoning for using different strategies to solve. Students explain different strategies to multiply decimals.	Students explain their reasoning for using particular strategies to multiply decimals while answering <i>Wh-</i> questions.	Students discuss the value of hearing different viewpoints and approaches to problem solving.	<b>6-6</b>	area model decimal grid decomposition partial product unknown	relevant suggest	+ decimal grids + <i>Show and Explain Your Reasoning Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	5.NBT.B.7
<b>Unit Review</b> <b>Fluency Practice</b> <b>Unit Assessment</b> <b>Performance Task</b>										

**PACING: 11 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>with</i> <b>Division Puzzles</b> Solve 3 by 3 number puzzles using division facts.										
7-1	Division Patterns with Multi-Digit Numbers	Students use place-value patterns and basic facts to divide a whole number by a multiple of 10.	Students talk about how to use place-value patterns and basic facts to divide a whole number by a multiple of 10 using the modal verb <i>can</i> .	Students recognize personal strengths through thoughtful self-reflection.	7-1	<b>Math Terms</b> dividend divisor quotient	<b>Academic Terms</b> accurate evaluate	• base-ten blocks • index cards • number cubes	Conceptual Understanding, Procedural Skill & Fluency	5.NBT.B.6
7-2	Estimate Quotients	Students estimate quotients of multi-digit numbers using the same strategies used to estimate quotients of lesser numbers. Students use estimated quotients to make predictions about a calculated solution. Students use estimated quotients to assess the reasonableness of a calculated solution.	Students talk about estimating quotients, using the terms <i>greater than</i> , <i>less than</i> , and <i>about</i> .	Students set learning goals and initiate work on tasks to accomplish their goals.	7-2	estimate	suggest variation	• digit cards	Conceptual Understanding, Procedural Skill & Fluency	5.NBT.B.6
7-3	Relate Multiplication and Division of Multi-Digit Numbers	Students use the relationship between multiplication and division to determine the quotient of multi-digit numbers.	Students describe the relationship between multiplication and division that helps them to find the quotient when dividing by a multiple of 10 using the verb <i>determine</i> and the adjectives <i>same</i> and <i>different</i> .	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	7-3	dividend divisor	analyze establish	• base-ten blocks • number cubes	Conceptual Understanding, Procedural Skill & Fluency	5.NBT.B.6
7-4	Represent Division of 2-Digit Divisors	Students use an area model to determine partial quotients and add partial quotients to calculate the quotient.	Students explain how to use an area model to determine and add partial quotients using comparatives <i>more useful</i> , <i>less useful</i> , <i>more helpful</i> , and <i>less helpful</i> .	Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.	7-4	partial quotient	reflect speculate	• base-ten blocks • calculators	Conceptual Understanding, Procedural Skill & Fluency	5.NBT.B.6
7-5	Use Partial Quotients to Divide	Students record partial quotients using an algorithm.	Students discuss recording partial quotients while using the verb <i>relate</i> .	Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.	7-5	partial quotient	condition drawback	• <i>Blank Partial Quotients Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	5.NBT.B.6
7-6	Divide Multi-Digit Whole Numbers	Students solve division problems using partial quotients, which sometimes include remainders.	Students explain how to solve division problems using partial quotients, which sometimes include remainders, using <i>it</i> , <i>them</i> .	Students set a focused mathematical goal and make a plan for achieving that goal.	7-6	partial quotient remainder	address advantage	• base-ten blocks	Conceptual Understanding, Procedural Skill & Fluency	5.NBT.B.6
7-7	Solve Problems Involving Division	Students solve word problems involving division. Students interpret the remainder, when necessary, to solve problems.	Students talk about solving word problems involving division while using the modals <i>can</i> and <i>could</i> .	Students break down a situation to identify the problem at hand.	7-7	remainder	note transient		Conceptual Understanding, Procedural Skill & Fluency	5.NBT.B.6
<b>Math Probe Solving Division Word Problems</b> Solve a division word problem.										
<b>Unit Review</b>										
<b>Fluency Practice</b>										
<b>Unit Assessment</b>										
<b>Performance Task</b>										

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>Lemonade Stand</i> Explore division of whole numbers by decimals using informal strategies.										
<b>8-1</b>	<b>Division Patterns with Decimals and Powers of 10</b>	Students use place-value patterns to determine the quotient of a decimal divided by a power of 10. Students use the relationship between place-value positions to explain patterns when dividing decimals by powers of 10.	Students talk about place-value patterns when dividing decimals by powers of 10 while answering <i>Wh-</i> questions and using the term <i>shift</i> .	Students determine the strategies and analyses necessary to make informed decisions when engaging in mathematical practices.	<b>8-1</b>	<b>Math Terms</b> power of 10 <b>Academic Terms</b> expand reflect suggest	<ul style="list-style-type: none"> <li>base-ten blocks</li> <li>calculators</li> <li>hundred grids</li> </ul>	Conceptual Understanding, Procedural Skill and Fluency	5.NBT.A.2	
<b>8-2</b>	<b>Estimate Quotients of Decimals</b>	Students estimate quotients of decimals using the same strategies used to estimate quotients of whole numbers. Students use estimated quotients to make predictions about a calculated solution. Students use estimated quotients to assess the reasonableness of a calculated solution.	Students discuss estimating the quotients of decimals while answering <i>Wh-</i> and <i>Yes/No</i> questions and using terms such as <i>could</i> and <i>would</i> .	Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.	<b>8-2</b>	dividend divisor estimate quotient	<ul style="list-style-type: none"> <li>calculator</li> <li>number cubes</li> </ul>	Conceptual Understanding, Procedural Skill and Fluency	5.NBT.B.7	
<b>8-3</b>	<b>Represent Division of Decimals by a Whole Number</b>	Students represent division of decimals with equal sharing or equal grouping.	Students discuss how to divide decimals by whole numbers while answering <i>Wh-</i> questions and using the modal <i>might</i> .	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	<b>8-3</b>	decimal dividend divisor	<ul style="list-style-type: none"> <li>bills and coins manipulatives</li> <li>index cards</li> </ul>	<ul style="list-style-type: none"> <li><i>Tenths and Hundredths Representations Teaching Resource</i></li> </ul>	Conceptual Understanding, Procedural Skill and Fluency	5.NBT.B.7
<b>8-4</b>	<b>Divide Decimals by Whole Numbers</b>	Students use place-value understanding and equivalent representations to divide a decimal by a whole number.	Students explain how to divide a decimal by a whole number by answering multiple <i>How</i> questions using <i>can</i> .	Students identify and discuss the emotions experienced during math learning.	<b>8-4</b>	dividend divisor place value quotient	<ul style="list-style-type: none"> <li>number cubes</li> </ul>		Conceptual Understanding, Procedural Skill and Fluency	5.NBT.B.7
<b>8-5</b>	<b>Divide Whole Numbers by Decimals</b>	Students use decimal grids to represent and solve a division equation. Students multiply by a power of 10 to write an equivalent expression with a whole-number divisor to solve a division equation.	Students discuss finding quotients of whole numbers using division grids and powers of 10, answering <i>How</i> and <i>Why</i> .	Students recognize and work to understand the emotions of others and practice empathetic responses.	<b>8-5</b>	dividend divisor power of 10 quotient	<ul style="list-style-type: none"> <li><i>10 × 10 Grids Teaching Resource</i></li> </ul>	Conceptual Understanding, Procedural Skill and Fluency	5.NBT.B.7	
<b>8-6</b>	<b>Divide Decimals by Decimals</b>	Students multiply the dividend and the divisor by a power of 10 to write an equivalent equation containing whole numbers to solve a division equation.	Students discuss multiple strategies to find quotients of decimals while answering <i>Wh-</i> questions.	Students set learning goals and initiate work on tasks to accomplish their goals.	<b>8-6</b>	dividend divisor partial quotients power of 10 quotient	<ul style="list-style-type: none"> <li><i>Tenths and Hundredths Representations</i></li> </ul>	Conceptual Understanding, Procedural Skill and Fluency	5.NBT.B.7	
<b>Math Probe</b> <i>Decimal Division</i> Select the correct quotient for division with a decimal dividend and divisor.										

Fluency Practice  
Unit Review

Unit Assessment  
Performance Task

## PACING: 13 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b>	<b>Problem Solving</b> Fraction Wall	Students use a fraction wall to explore ways to make a fraction using fractions with different denominators.								
<b>9-1</b>	Estimate Sums and Differences of Fractions	Students use benchmark numbers to estimate sums and differences of fractions. Students explain how to use an estimate to predict or check the reasonableness of a calculated sum or difference of fractions.	Students talk about benchmark numbers to estimate the sums and differences of fractions using <i>greater than</i> and <i>less than</i> .	Students determine how they can break a problem down to make it easier to solve.	<b>9-1</b>	<b>Math Terms</b> benchmark number estimate <b>Academic Terms</b> eliminate suggest	• fraction circles • fraction tiles • number cubes • <i>Benchmark Fraction Number Line Teaching Resource</i>	Application	5.NF.A.2	
<b>Math Probe</b> Make an Estimate of the Sum Students use strategies to reason about the magnitude of and addition of fractions.										
<b>9-2</b>	Represent Addition of Fractions with Unlike Denominators	Students use and explain how to use a representation to add fractions with unlike denominators.	Students explain how to use a representation to add fractions with unlike denominators using <i>can</i> .	Students exchange ideas for mathematical problem-solving with a peer and provide thoughtful and constructive feedback.	<b>9-2</b>	denominator equivalent fractions fraction tiles like denominators numerator	• <i>Blank Open Number Line Teaching Resource</i> • fraction tiles • ruler	Conceptual Understanding, Procedural Skill & Fluency	5.NF.A.1	
<b>9-3</b>	Add Fractions with Unlike Denominators	Students add and explain how to add fractions with unlike denominators.	Students explain how to add fractions with unlike denominators using <i>should</i> .	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	<b>9-3</b>	equivalent fractions like denominator multiple	• fraction tiles • number cubes	Conceptual Understanding, Procedural Skill & Fluency	5.NF.A.1	
<b>9-4</b>	Represent Subtraction of Fractions with Unlike Denominators	Students use and explain how to use a representation to subtract fractions with unlike denominators.	Students explain how to use a representation to subtract fractions with unlike denominators using <i>can</i> .	Students employ self-calming techniques that can be used to help manage reactions to potentially frustrating situations.	<b>9-4</b>	denominator equivalent fractions	• <i>Fraction Number Lines Teaching Resource</i> • fraction tiles	Conceptual Understanding, Procedural Skill & Fluency	5.NF.A.1	
<b>9-5</b>	Subtract Fractions with Unlike Denominators	Students subtract and explain how to subtract fractions with unlike denominators.	Students explain how to subtract fractions with unlike denominators using <i>can</i> and <i>should</i> .	Students practice staying focused on a mathematical problem for a set time.	<b>9-5</b>	denominator equivalent fractions	• fractions tiles • index cards	Conceptual Understanding, Procedural Skill & Fluency	5.NF.A.1	
<b>9-6</b>	Add Mixed Numbers with Unlike Denominators	Students add and explain how to add mixed numbers with unlike denominators.	Students talk about adding mixed numbers with unlike denominators using <i>can</i> and <i>use</i> .	Students identify multiple possible solutions for a given math problem.	<b>9-6</b>	equivalent fractions mixed number	• fraction tiles • index cards	Conceptual Understanding, Procedural Skill & Fluency	5.NF.A.1	
<b>9-7</b>	Subtract Mixed Numbers with Unlike Denominators	Students subtract and explain how to subtract mixed numbers with unlike denominators.	Students talk about subtracting mixed numbers with unlike denominators using <i>can</i> , <i>should</i> , <i>same</i> , and <i>different</i> .	Students practice segmenting a complex mathematical task into smaller achievable tasks.	<b>9-7</b>	equivalent fractions mixed number	• blank spinner • fraction tiles	Conceptual Understanding, Procedural Skill & Fluency	5.NF.A.1	
<b>9-8</b>	Add and Subtract Mixed Numbers with Regrouping	Students add and subtract mixed numbers with regrouping.	Students talk about adding and subtracting mixed numbers with regrouping using <i>rearrange</i> and <i>rename</i> .	Students work toward completing a mathematical task independently using prior knowledge or understanding of mathematical concepts.	<b>9-8</b>	equivalent fractions mixed number	• fraction tiles • index cards • rulers	• <i>Explain and Show Your Strategies Teaching Resource</i>	Conceptual Understanding, PSF	5.NF.A.1
<b>9-9</b>	Solve Problems Involving Fractions and Mixed Numbers	Students solve word problems involving fractions.	Students explain how to solve word problems with fractions using <i>can</i> , <i>should</i> , <i>reasonable</i> , and <i>estimate</i> .	Students identify a problem and execute the steps necessary to solve the problem.	<b>9-9</b>	equivalent fractions mixed number	• fraction circles • fraction tiles • number cubes	• <i>Problem-Solving Tool Teaching Resource</i>	Application	5.NF.A.2

## Unit Review

## Fluency Practice

## Performance Task

## Unit Assessment

PACING: 13 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>math</i> Folding Fractions on a Strip Students explore how much is represented when folding a strip.									
10-1	Represent Multiplication of a Whole Number by a Fraction	Students use a representation to multiply a whole number by a fraction.	Students discuss using representations to multiply a whole number by a fraction using <i>other ways</i> and <i>different ways</i> .	10-1	<b>Math Terms</b> fraction model multiplication partition	<b>Academic Terms</b> reflect suggest	+ counters + fraction circles + fraction tiles	Conceptual Understanding, Procedural Skill & Fluency	5.NF.B.4, 5.NF.B.4.a
10-2	Multiply a Whole Number by a Fraction	Students multiply a whole number by a fraction.	Students explain multiplying a whole number by a fraction using the verbs <i>notice</i> and <i>apply</i> , and the phrase <i>make a shortcut</i> .	10-2	denominator numerator	citation complex	+ fraction circles + fraction tiles	Conceptual Understanding, Procedural Skill & Fluency	5.NF.B.4, 5.NF.B.4.a
<b>Math Probe</b> Which is Greater? Students identify the quantity that is greater.									
10-3	Represent Multiplication of a Fraction by a Fraction	Students use a representation to multiply a fraction by a fraction.	Students explain how to represent multiplication of a fraction by a fraction using the verbs <i>partition</i> and <i>show</i> and the nouns <i>patterns</i> and <i>shortcuts</i> .	10-3	fraction model multiplication	procedure speculate	+ fraction circles + fraction tiles + grid paper	Conceptual Understanding, Procedural Skill & Fluency	5.NF.B.4, 5.NF.B.4.a
10-4	Multiply a Fraction by a Fraction	Students multiply a fraction by a fraction by multiplying the numerators and multiplying the denominators.	Students talk about multiplying a fraction by a fraction by multiplying the numerators and denominators using <i>relate</i> .	10-4	denominator numerator	arguably speculate	+ grid paper + index cards	Conceptual Understanding, Procedural Skill & Fluency	5.NF.B.4, 5.NF.B.4.a
10-5	Determine the Area of Rectangles with Fractional Side Lengths	Students find the area of a rectangle with fractional side lengths by tiling. Students find the area of a rectangle with fractional side lengths by multiplying the side lengths.	Students explain how to find the area of a rectangle with fractional side lengths using the verb <i>tile</i> .	10-5	area square unit	expand reflect	+ blank spinners + grid paper + rulers	Conceptual Understanding, Procedural Skill & Fluency	5.NF.B.4.b
10-6	Represent Multiplication of Mixed Numbers	Students use an area model to represent multiplication of mixed numbers. Students find partial products using an area model.	Students talk about using an area model to represent multiplication of mixed numbers using the terms <i>similar to</i> and <i>different from</i> .	10-6	area model decompose mixed number partial products	accurate establish	+ blank spinners + fraction tiles + grid paper	Conceptual Understanding, Procedural Skill & Fluency	5.NF.B.4, 5.NF.B.4.a
10-7	Multiply Mixed Numbers	Students use partial products to multiply mixed numbers. Students write mixed numbers as fractions to find the product.	Students discuss multiplying mixed numbers using the verb <i>find</i> .	10-7	decompose partial products	accurate transition	+ grid paper	Conceptual Understanding, Procedural Skill & Fluency	5.NF.B.4, 5.NF.B.4.a
10-8	Multiplication as Scaling	Students explain how the size of the factors impacts the size of the product without performing the multiplication.	Students explain why the product of a given number and a fraction greater than 1 results in a product greater than the given number.	10-8	<b>scaling</b>	complex infer	+ index cards	Conceptual Understanding	5.NF.B.5.a, 5.NF.B.5.b
10-9	Solve Word Problems Involving Fractions	Students solve word problems involving fractions.	Students talk about solving word problems involving fractions using the verb <i>determine</i> .	10-9	equation unknown variable	assert reflect	+ grid paper + <i>Problem-Solving Tool</i> Teaching Resource	Application	5.NF.B.5

**Unit Review**

**Fluency Practice**

**Performance Task**

**Unit Assessment**

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Number Strings</i> Students use patterns to divide with fractions.									
<b>11-1</b>	<b>Relate Fractions to Division</b>	Students represent the quotient to a division equation as a fraction or mixed number.	Students talk about relating fractions to division with the gerund using.	Students discuss and practice positive strategies for managing emotional reactions to stressful situations.	<b>11-1</b>	<b>Math Terms</b> denominator dividend divisor numerator quotient  <b>Academic Terms</b> prove reflect	<ul style="list-style-type: none"> <li>fraction circles</li> <li>number cubes</li> </ul>	Conceptual Understanding, Application	5.NF.B.3
<b>11-2</b>	<b>Solve Problems Involving Division</b>	Students determine whether a quotient should be written with a remainder or as a mixed number.	Students discuss whether a quotient should be written with a remainder or as a mixed number using <i>apply</i> .	Students exercise creativity by solving a problem using more than one approach.	<b>11-2</b>	mixed number quotient remainder  analyze reflect	<ul style="list-style-type: none"> <li>number cards</li> <li><i>Problem-Solving Tool Teaching Resource</i></li> </ul>	Application	5.NF.B.3
<b>11-3</b>	<b>Represent Division of Whole Numbers by Unit Fractions</b>	Students use representations to divide whole numbers by unit fractions.	Students talk about using representations to divide whole numbers by unit fractions using <i>can</i> and <i>should</i> .	Students collaborate with peers to solve a mathematical problem.	<b>11-3</b>	division fraction model unit fraction  evaluate reflect	<ul style="list-style-type: none"> <li>fraction circles</li> <li>fraction tiles</li> <li>number cube</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	5.NF.B.7, 5.NF.B.7.b
<b>11-4</b>	<b>Divide Whole Numbers by Unit Fractions</b>	Students use the meaning of multiplication as equal groups to divide whole numbers by unit fractions.	Students discuss if a calculated quotient is correct using a related multiplication equation using <i>should</i> , <i>might</i> , and <i>could</i> .	Students identify and use mathematical tools to organize work.	<b>11-4</b>	dividend division divisor unit fraction  arguably speculate	<ul style="list-style-type: none"> <li>spinners</li> <li><i>Unit Fractions &amp; Whole Numbers Teaching Resource</i></li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	5.NF.B.7, 5.NF.B.7.b
<b>11-5</b>	<b>Represent Division of Unit Fractions by Non-Zero Whole Numbers</b>	Students use representations to divide unit fractions by non-zero whole numbers.	Students explain how to use representations to divide unit fractions by non-zero whole numbers using <i>similar</i> and <i>related</i> .	Students determine the representations and analyses necessary to make informed decisions when engaging in mathematical practices.	<b>11-5</b>	division fraction model unit fraction  analyze suggest	<ul style="list-style-type: none"> <li><i>Dividing Fractions Puzzle Pieces Teaching Resource</i></li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	5.NF.B.7, 5.NF.B.7.a
<b>11-6</b>	<b>Divide Unit Fractions by Non-Zero Whole Numbers</b>	Students extend their understanding that dividing by a whole is the same as multiplying by a unit fraction to divide unit fractions by whole numbers.	Students explain if a calculated quotient is correct using <i>different</i> and <i>related</i> .	Students demonstrate self-awareness of personal strengths and areas of challenge in mathematics.	<b>11-6</b>	dividend division divisor unit fraction  accurate evaluate	<ul style="list-style-type: none"> <li>fraction circles</li> <li><i>Unit Fractions and Whole Numbers Teaching Resource</i></li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	5.NF.B.7, 5.NF.B.7.a
<b>Math Probe</b> <i>Which Expressions Represent the Situation?</i> Students choose expressions that can be used to solve problems involving division and fractions.									
<b>11-7</b>	<b>Solve Problems Involving Fractions</b>	Students solve word problems involving division of fractions using strategies such as using fraction models.	Students discuss solving word problems involving division of fractions using different strategies, using <i>another way</i> .	Students advocate for their mathematical problem solving and adjust their understanding based on constructive feedback.	<b>11-7</b>	equation unknown variable  establish relevant	<ul style="list-style-type: none"> <li><i>Problem-Solving Tool Teaching Resource</i></li> </ul>	Conceptual Understanding, Procedural Skill & Fluency, Application	5.NF.B.7, 5.NF.B.7.c

**Unit Review**  
**Fluency Practice**

**Unit Assessment**  
**Performance Task**

PACING: 9 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>Which Sums Occur Least and Most?</i> Students roll a pair of number cubes and explore how often each sum occurs. The data can be visualized with a line plot later in the module.										
12-1	Convert Customary Units	Students use the relationship between customary units of measurement to convert measurements. Students use the relationship between units of time to convert measurements.	Students discuss the relationship between customary units of measurement and time to convert measurements using the verb <i>decide</i> .	Students foster personal curiosity about mathematics by relating a mathematical concept to their own lives and interests.	12-1	<b>Math Terms</b> capacity convert customary system length weight	<b>Academic Terms</b> accurate infer	<ul style="list-style-type: none"> <li>• <i>Customary Conversion Tables Teaching Resource</i></li> <li>• <i>Customary Measurement Cards Teaching Resource</i></li> </ul>	Procedural Skill & Fluency, Application	5.MD.A.1
12-2	Convert Metric Units	Students use the relationship between metric units of measurement to convert measurements.	Students discuss the relationship between metric units of measurements to convert measurements using the verb <i>help</i> .	Students explain their thinking for how they solved a mathematical problem, including how a correct solution was found or what caused confusion and why.	12-2	capacity convert length mass metric system	emphasize note	<ul style="list-style-type: none"> <li>• base-ten blocks (ones and tens only)</li> <li>• <i>Metric Conversion Tables Teaching Resource</i></li> <li>• number cubes</li> </ul>	Procedural Skill & Fluency, Application	5.MD.A.1
12-3	Solve Multi-Step Problems Involving Measurement Units	Students solve multi-step problems by identifying and answering a hidden question and using that answer to solve the initial problem.	Students discuss solving multi-step problems by identifying and answering a hidden question to solve the initial problem using <i>make sense of and determine</i> .	Students describe the logic and reasoning used to make a mathematical decision.	12-3	convert	analyze procedure	<ul style="list-style-type: none"> <li>• <i>Customary Conversion Tables Teaching Resource</i></li> <li>• index cards</li> <li>• <i>Metric Conversation Tables Teaching Resource</i></li> <li>• <i>Problem-Solving Tool Teaching Resource</i></li> </ul>	Procedural Skill & Fluency, Application	5.MD.A.1
12-4	Represent Measurement Data on a Line Plot	Students create a line plot to display a data set involving measurement. Students interpret line plots.	Students discuss line plots using the modals <i>might</i> , <i>can</i> , and <i>could</i> .	Students recognize and build upon personal mathematical strengths of self and others within the classroom math community.	12-4	data line plot outlier	accurate reflect	<ul style="list-style-type: none"> <li>• dry spaghetti noodles</li> <li>• <i>Water Remaining Line Plot Teaching Resource</i></li> </ul>	Procedural Skill & Fluency, Application	5.MD.B.2
12-5	Solve Problems Involving Measurement Data on Line Plots	Students solve problems using data in a line plot and performing operations on the data.	Students discuss solving problems using operations and line plot data using <i>amount</i> and the superlatives <i>greatest</i> and <i>least</i> .	Students acknowledge different representations that can be used to complete a mathematical task, and reflect on the value of the similarities and differences.	12-5	data line plot	emphasize suggest	<ul style="list-style-type: none"> <li>• blank number cubes</li> <li>• index cards</li> <li>• <i>Problem-Solving Tool Teaching Resource</i></li> </ul>	Procedural Skill & Fluency, Application	5.MD.B.2

**Math Probe Line Plots** Students interpret a line plot with fractional data.

**Unit Review**
**Fluency Practice**
**Unit Assessment  
 Performance Task**

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b>  Tetriminoes Students explore polygons made from congruent connecting squares.										
<b>13-1</b>	Understand the Coordinate Plane	Students identify and describe features of a coordinate grid. Students use a coordinate plane to determine the ordered pair associated with a point.	Students discuss how they can describe features of the coordinate plane using <i>related</i> , <i>find</i> , and <i>ordered pair</i> .	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	<b>13-1</b>	<p><b>Math Terms</b></p> <ul style="list-style-type: none"> <li>coordinate plane</li> <li>ordered pair</li> <li>origin</li> </ul> <p><b>Academic Terms</b></p> <ul style="list-style-type: none"> <li>x-axis</li> <li>x-coordinate</li> <li>y-axis</li> <li>y-coordinate</li> </ul>	<p><b>Academic Terms</b></p> <ul style="list-style-type: none"> <li>correspond</li> <li>emphasize</li> </ul>	<ul style="list-style-type: none"> <li>Understanding the Coordinate Plane Teaching Resource</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	5.G.A.1
<b>13-2</b>	Plot Ordered Pairs on the Coordinate Plane	Students plot ordered pairs on a coordinate plane.	Students explain how they can plot ordered pairs on a coordinate plane using the verbs <i>draw</i> and <i>label</i> .	Students set a focused mathematical goal and make a plan for achieving that goal.	<b>13-2</b>	<ul style="list-style-type: none"> <li>coordinate plane</li> <li>ordered pair</li> <li>origin</li> </ul> <p>x-axis x-coordinate y-axis y-coordinate</p>	<ul style="list-style-type: none"> <li>correspond</li> <li>quality</li> </ul>	<ul style="list-style-type: none"> <li>blank number cubes</li> <li>Coordinate Plane Teaching Resource</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	5.G.A.1
<b>13-3</b>	Represent Problems on a Coordinate Plane	Students plot points that represent real-world situations. Students interpret coordinate values of points in the context of the situation.	Students talk about plotting points on the coordinate plane when given real-world data using the verbs <i>draw</i> and <i>label</i> .	Students identify and use mathematical tools to organize work.	<b>13-3</b>	<ul style="list-style-type: none"> <li>origin</li> <li>x-axis</li> <li>x-coordinate</li> </ul> <p>y-axis y-coordinate</p>	<ul style="list-style-type: none"> <li>accurate</li> <li>interpret</li> </ul>	<ul style="list-style-type: none"> <li>Coordinate Plane Teaching Resource</li> </ul>	Procedural Skill & Fluency	5.G.A.2
<b>13-4</b>	Classify Triangles by Properties	Students classify triangles into categories and subcategories based on their properties. Students organize the categories and subcategories into a hierarchy.	Students talk about classifying triangles using <i>the same</i> , <i>different</i> , and <i>share</i> .	Students identify and discuss the emotions experienced during math learning.	<b>13-4</b>	<ul style="list-style-type: none"> <li>category</li> <li>equilateral triangle</li> <li>hierarchy</li> </ul> <p>isosceles triangle property scalene triangle subcategory</p>	<ul style="list-style-type: none"> <li>evaluate</li> <li>suggest</li> </ul>	<ul style="list-style-type: none"> <li>plastic straws</li> <li>Properties of Triangles Teaching Resource</li> </ul>	Conceptual Understanding	5.G.B.3, 5.G.B.4
<b>13-5</b>	Properties of Quadrilaterals	Students name quadrilaterals based on their properties.	Students explain how to identify quadrilaterals based on their properties with <i>know</i> and <i>makes</i> .	Students practice behavioral flexibility while working with peers to complete a challenging mathematical task.	<b>13-5</b>	<ul style="list-style-type: none"> <li>attribute</li> <li>parallelogram</li> <li>property</li> <li>quadrilateral</li> </ul> <p>rectangle rhombus square trapezoid</p>	<ul style="list-style-type: none"> <li>establish</li> <li>quality</li> </ul>	<ul style="list-style-type: none"> <li>Classifying Quadrilaterals Teaching Resource</li> </ul>	Conceptual Understanding	5.G.B.4
<b>Math Probe Ordered Pairs</b> Students plot points on a coordinate plane.										
<b>13-6</b>	Classify Quadrilaterals by Properties	Students classify quadrilaterals into categories and subcategories based on their properties. Students organize the categories and subcategories into a hierarchy.	Students explain how to classify quadrilaterals into categories and subcategories based on their properties using <i>use</i> and <i>share</i> .	Students identify the information that is needed or most useful in order to complete a mathematical task.	<b>13-6</b>	<ul style="list-style-type: none"> <li>hierarchy</li> <li>parallelogram</li> <li>quadrilateral</li> <li>rectangle</li> </ul> <p>rhombus square trapezoid Venn diagram</p>	<ul style="list-style-type: none"> <li>accurate</li> <li>analyze</li> </ul>	<ul style="list-style-type: none"> <li>Venn Diagram Teaching Resource</li> </ul>	Procedural Skill & Fluency	5.G.B.3, 5.G.B.4
<b>Unit Review</b>										
<b>Fluency Practice</b>										
<b>Unit Assessment</b>										
<b>Performance Task</b>										

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b>  5-4-3-2-1 Challenge Students explore how expressions can be interpreted in different ways.									
14-1	Write Numerical Expressions	Students write numerical expressions to represent calculations that are described using written statements.	Students explain how to write numerical expressions to represent a given word problem using <i>should</i> , <i>could</i> , and <i>use</i> .	Students exchange ideas for completing a mathematical task with a peer and reflect on the value of their similarities and differences.	14-1	<b>Math Terms</b> expression grouping symbol numerical expression parentheses  <b>Academic Terms</b> reflect suggest	• number cubes	Conceptual Understanding	5.OA.A.1, 5.OA.A.2
14-2	Interpret Numerical Expressions	Students interpret numerical expressions without evaluating the expression.	Students discuss interpreting numerical expressions without evaluating the expression using <i>similar</i> , <i>different</i> , and <i>notice</i> .	Students recognize and respond appropriately to the emotions of others during collaborative math work.	14-2	expression grouping symbol numerical expression parentheses  complex valid	• index cards	Conceptual Understanding	5.OA.A.1, 5.OA.A.2
14-3	Evaluate Numerical Expressions	Students use the order of operations to evaluate numerical expressions.	Students talk about using the order of operations to evaluate numerical expressions using the verb <i>help</i> .	Students demonstrate self-discipline through working through distractions to complete a mathematical task.	14-3	evaluate order of operations  accurate contradiction	• cardstock	Conceptual Understanding, Procedural Skill & Fluency	5.OA.A.1
<b>Math Probe</b> Order of Operations Students identify which operation in an expression should be performed first.									
14-4	Numerical Patterns	Students generate two numerical patterns that follow two given rules.  Students identify relationships between corresponding terms in the generated number patterns.	Students discuss the relationships between corresponding terms in the generated number patterns using the verbs <i>represent</i> and <i>determine</i> .	Students exercise creativity by solving a problem using more than one approach.	14-4	corresponding term numerical pattern rule (of a pattern)  emphasize transition	• two-color counters	Conceptual Understanding, Procedural Skill & Fluency	5.OA.B.3
14-5	Relate Numerical Patterns	Students use a table to arrange corresponding terms of two numerical patterns.  Students describe the relationship between corresponding terms in two numerical patterns.	Students discuss relationships between corresponding terms in two numerical patterns using the verbs <i>identify</i> and <i>use</i> .	Students self-motivate and sustain engagement to work independently to complete a challenging mathematical task.	14-5	corresponding term numerical pattern rule (of a pattern)  accurate inference	• number cubes	Conceptual Understanding, Procedural Skill & Fluency	5.OA.B.3
14-6	Graphs of Numerical Patterns	Students plot ordered pairs consisting of the corresponding terms from two numerical patterns.	Students explain how to plot ordered pairs consisting of the corresponding terms from two numerical patterns using <i>can</i> and <i>should</i> .	Students discuss alternative strategies/methods for solving a mathematical problem and the value of flexible mathematical thinking.	14-6	corresponding term numerical pattern  analyze speculate	• blank cubes • <i>Coordinate Plane Teaching Resource</i> • index cards	Conceptual Understanding, Procedural Skill & Fluency	5.OA.B.3
<b>Unit Review</b>									
<b>Fluency Practice</b>									
<b>Performance Task</b>									
<b>Unit Assessment</b>									

# Ratios and Rates

## Module Goal

Use ratio and rate reasoning to solve real-world and mathematical problems.

## Focus

**Domain:** Ratios and Proportional Relationships

**Major Cluster(s):** **6.RP.A** Understand ratio concepts and use ratio reasoning to solve problems.

**Standards for Mathematical Content:**

**6.RP.A.2** Understand the concept of a unit rate  $a/b$  associated with a ratio  $a:b$  with  $b \neq 0$ , and use rate language in the context of a ratio relationship.

**6.RP.A.3** Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to understand how a fraction can be used to express part of a whole, and need to be able to multiply and divide with whole numbers.

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson		Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video			1	0.5
1-1	Understand Ratios	6.RP.A.1	2	1
1-2	Tables of Equivalent Ratios	6.RP.A.3, 6.RP.A.3.A	3	1.5
1-3	Graphs of Equivalent Ratios	6.RP.A.3, 6.RP.A.3.A	2	1
1-4	Compare Ratio Relationships	6.RP.A.3, 6.RP.A.3.A	1	0.5
1-5	Solve Ratio Problems	6.RP.A.3, <i>Also addresses 6.RP.A.1</i>	2	1
Put It All Together 1: Lessons 1-1 through 1-5			0.5	0.25
1-6	Convert Customary Measurement Units	6.RP.A.3, 6.RP.A.3.D, <i>Also addresses 6.RP.A.1</i>	2	1
1-7	Understand Rates and Unit Rates	6.RP.A.2, 6.RP.A.3, 6.RP.A.3.A, 6.RP.A.3.B	2	1
1-8	Solve Rate Problems	6.RP.A.2, 6.RP.A.3, 6.RP.A.3.B	2	1

## Coherence

### Vertical Alignment

#### Previous

Students understood a fraction as part of a whole, and fraction equivalence. **3.NF.A.1, 4.NF.A.1**

#### Now

Students use ratio and rate reasoning to solve real-world and mathematical problems. **6.RP.A.1, 6.RP.A.2, 6.RP.A.3**

#### Nest

Students will use ratio reasoning to find the percent of a number. **6.RP.A.3, 6.RP.A.3.C**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of fractions and fraction equivalence to develop *understanding* of ratios and rates. They use this understanding to build *fluency* with finding equivalent ratios and rates, and finding unit rates. They also *apply* their understanding of ratios and rates to solve real-world problems.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Fractions, Decimals, and Percents

## Module Goal

Learn about the relationship between fractions, decimals, and percents, and apply that relationship to finding the percent of a number.

## Focus

**Domain:** Ratios and Proportional Relationships

**Major Cluster(s):** **6.RP.A** Understand ratio concepts and use ratio reasoning to solve problems.

**Standards for Mathematical Content:**

**6.RP.A.3** Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

**6.RP.A.3.C** Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means  $\frac{30}{100}$  times the quantity); solve problems involving finding the whole, given a part and the percent.

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- generate equivalent ratios
- express fractions as decimals

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
2-1 Understand Percents	Foundational for 6.RP.A.3, 6.RP.A.3.C	1	0.5
2-2 Percents Greater Than 100% and Less Than 1%	Foundational for 6.RP.A.3, 6.RP.A.3.C	1	0.5
2-3 Relate Fractions, Decimals, and Percents	Foundational for 6.RP.A.3, 6.RP.A.3.C	3	1.5
Put It All Together 1: Lessons 2-1 through 2-3		0.5	0.25
2-4 Find the Percent of a Number	6.RP.A.3, 6.RP.A.3.C	3	1.5
2-5 Estimate the Percent of a Number	6.RP.A.3, 6.RP.A.3.C	1	0.5
2-6 Find the Whole	6.RP.A.3, 6.RP.A.3.C	2	1
Put It All Together 2: Lessons 2-4 through 2-6		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>15</b>	<b>7.5</b>

## Coherence

### Vertical Alignment

#### Previous

Students solved problems involving ratios and rates.  
**6.RP.A.1, 6.RP.A.2, 6.RP.A.3**

#### Now

Students relate fractions, decimals, and percents, and find the percent of a number.  
**6.RP.A.3, 6.RP.A.3.C**

#### Next

Students will use ratios to solve multi-step percent problems.  
**7.RP.A.3**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of fractions, decimals, ratios, and rates to build *fluency* with finding percents of a quantity. They *apply* their fluency with percents to solve real-world problems involving finding the whole, given the part and the percent.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Compute with Multi-Digit Numbers and Fractions

## Module Goal

Compute with multi-digit numbers and fractions.

## Focus

**Domain:** The Number System

**Major Cluster(s):**

**6.NS.A** Apply and extend previous understandings of multiplication and division to divide fractions by fractions.

**Standards for Mathematical Content:**

**6.NS.A.1** Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

**6.NS.B.3** Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation.

*Also addresses 6.NS.B.2.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- fluently add, subtract, and multiply multi-digit whole numbers
- divide whole numbers with up to four-digit dividends and two-digit divisors
- perform operations with decimals to the hundredths place
- add, subtract, and multiply fractions
- divide whole numbers by unit fractions and vice versa using visual models

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
3-1 Divide Multi-Digit Whole Numbers	6.NS.B.2	2	1
3-2 Compute with Multi-Digit Decimals	6.NS.B.3	2	1
Put It All Together 1: Lessons 3-1 and 3-2		0.5	0.25
3-3 Divide Whole Numbers by Fractions	6.NS.A.1	3	1.5
3-4 Divide Fractions by Fractions	6.NS.A.1	2	1
3-5 Divide with Whole and Mixed Numbers	6.NS.A.1	3	1.5
Put It All Together 2: Lessons 3-3, 3-4, and 3-5		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>16</b>	<b>8</b>

## Coherence

### Vertical Alignment

#### Previous

Students multiplied with fractions and mixed numbers and divided with unit fractions.

**5.NF.B.4, 5.NF.B.6, 5.NF.B.7**

#### Now

Students compute with multi-digit numbers and fractions.

**6.NS.A.1, 6.NS.B.2, 6.NS.B.3**

#### Next

Students will extend previous understandings of numbers to the system of rational numbers.

**6.NS.C.5, 6.NS.C.6, 6.NS.C.7, 6.NS.C.8**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of basic computation to develop *understanding* of computation with multi-digit numbers and fractions. They use this understanding to build *fluency* with the four basic operations involving whole numbers and decimals, and division of fractions and mixed numbers. They also apply their understanding of fractions to write and solve real-world story contexts.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

### Module Goal

Graph integers and rational numbers on number lines and on the coordinate plane.

#### Focus

**Domain:** The Number System

**Major Cluster(s):** **6.NS.C** Apply and extend previous understandings of numbers to the system of rational numbers.

**Standards for Mathematical Content:**

**6.NS.C.6** Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.

**6.NS.C.7** Understand ordering and absolute value of rational numbers. *Also addresses 6.NS.C.5 and 6.NS.C.8.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

#### Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- compare and order a set of whole numbers
- graph whole numbers on the number line
- graph points with whole-number coordinates in the first quadrant of the coordinate plane

Use the Module Pretest to diagnose students' readiness for this module. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

### Suggested Pacing

Lesson	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
4-1 Represent Integers	6.NS.C.5, 6.NS.C.6, 6.NS.C.6.C	2	1
4-2 Opposites and Absolute Value	6.NS.C.5, 6.NS.C.6, 6.NS.C.6.A, 6.NS.C.7, 6.NS.C.7.C	2	1
4-3 Compare and Order Integers	6.NS.C.7, 6.NS.C.7.A–D	2	1
4-4 Rational Numbers	6.NS.C.6, 6.NS.C.6.C, 6.NS.C.7, 6.NS.C.7.A, 6.NS.C.7.C	2	1
Put It All Together 1: Lessons 4-1, 4-3, and 4-4		0.5	0.25
4-5 The Coordinate Plane	6.NS.C.6, 6.NS.C.6.B, 6.NS.C.6.C, 6.NS.C.8	3	1.5
4-6 Graph Reflections of Points	6.NS.C.6, 6.NS.C.6.B, 6.NS.C.6.C, 6.NS.C.8	3	1.5
4-7 Absolute Value and Distance	6.NS.C.8	3	1.5
Put It All Together 2: Lessons 4-5, 4-6, and 4-7		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>21</b>	<b>10.5</b>

### Coherence

#### Vertical Alignment

##### Previous

Students computed with multi-digit numbers and fractions.  
**6.NS.A.1, 6.NS.B.2, 6.NS.B.3**

##### Now

Students graph integer and rational-valued points on number lines and the coordinate plane.  
**6.NS.C.5, 6.NS.C.6, 6.NS.C.7, 6.NS.C.8**

##### Next

Students will perform operations with integers.  
**7.NS.A.1, 7.NS.A.2, 7.NS.A.3**

### Rigor

#### The Three Pillars of Rigor

In this module, students draw on their knowledge of whole numbers and number lines to develop *understanding* of integers, rational numbers, and the coordinate plane. They use this understanding to build *fluency* with representations of integers and absolute value, comparing and ordering rational numbers, and graphing points and finding distance on the coordinate plane. They also apply their understanding of integers, rational numbers, and the coordinate plane to solve real-world problems.

1 CONCEPTUAL UNDERSTANDING    2 FLUENCY    3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Numerical and Algebraic Expressions

## Module Goal

Write and evaluate numerical and algebraic expressions.

## Focus

**Domain:** Expressions and Equations

**Major Cluster(s):**

**6.NS.B** Compute fluently with multi-digit numbers and find common factors and multiples.

**6.EE.A** Apply and extend previous understandings of arithmetic to algebraic expressions.

**6.EE.B** Reason about and solve one-variable equations and inequalities.

**Standards for Mathematical Content:**

**6.EE.A.1** Write and evaluate numerical expressions involving whole-number exponents.

**6.EE.A.2** Write, read, and evaluate expressions in which letters stand for numbers.

*Also addresses 6.NS.B.4, 6.EE.A.2.A, 6.EE.A.2.B, 6.EE.A.2.C, 6.EE.A.3, 6.EE.A.4, and 6.EE.B.6.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- fluently add, subtract, multiply, and divide positive rational numbers

Use the Module Pretest to diagnose students' readiness for this module. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
5-1 Powers and Exponents	6.EE.A.1	2	1
5-2 Numerical Expressions	6.EE.A.1, <i>Also addresses 6.EE.A.2.C</i>	2	1
5-3 Write Algebraic Expressions	6.EE.A.2, 6.EE.A.2.A, 6.EE.A.2.B, 6.EE.B.6	2	1
5-4 Evaluate Algebraic Expressions	6.EE.A.2, 6.EE.A.2.C, 6.EE.B.6	3	1.5
<b>Put It All Together 1: Lessons 5-1, 5-2, 5-3, and 5-4</b>		0.5	0.25
5-5 Factors and Multiples	6.NS.B.4	2	1
5-6 Use the Distributive Property	6.NS.B.4, 6.EE.A.3, <i>Also addresses 6.EE.A.2.B</i>	3	1.5
5-7 Equivalent Algebraic Expressions	6.EE.A.3, 6.EE.A.4, <i>Also addresses 6.EE.A.2</i>	3	1.5
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>20.5</b>	<b>10.25</b>

## Coherence

Vertical Alignment

### Previous

Students write and interpret numerical expressions.

**5.OA.A.1, 5.OA.A.2**

### Now

Students write and evaluate numerical and algebraic expressions.

**6.NS.B.4, 6.EE.A.1, 6.EE.A.2, 6.EE.A.2.A, 6.EE.A.2.B, 6.EE.A.2.C, 6.EE.A.3, 6.EE.A.4, 6.EE.B.6**

### Next

Students will write and solve one-step equations and inequalities.

**6.EE.B.5, 6.EE.B.6, 6.EE.B.7, 6.EE.B.8**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of the four basic operations to develop *understanding* of numerical and algebraic expressions. They use this understanding to build *fluency* with using powers and exponents, order of operations, and mathematical properties, as well as evaluating multi-step algebraic expressions and generating and simplifying equivalent algebraic expressions. They also *apply* their understanding of numerical and algebraic expressions to solve real-world problems.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Equations and Inequalities

## Module Goal

Write and solve one-step equations and inequalities.

## Focus

**Domain:** Expressions and Equations

**Major Cluster(s):**

**6.EE.B** Reason about and solve one-variable equations and inequalities.

**Standards for Mathematical Content:**

**6.EE.B.6** Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

**6.EE.B.7** Solve real-world and mathematical problems by writing and solving equations of the form  $x + p = q$  and  $px = q$  for cases in which  $p$ ,  $q$  and  $x$  are all nonnegative rational numbers.

*Also addresses 6.NS.C.6.C, 6.EE.B.5, and 6.EE.B.8.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- fluently apply the Order of Operations to evaluate numerical expressions

Use the Module Pretest to diagnose students' readiness for this module. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
6-1 Use Substitution to Solve One-Step Equations	6.EE.B.5, <i>Also addresses 6.EE.B.6</i>	1	0.5
6-2 One-Step Addition Equations	6.EE.B.6, 6.EE.B.7	3	1.5
6-3 One-Step Subtraction Equations	6.EE.B.6, 6.EE.B.7	2	1
6-4 One-Step Multiplication Equations	6.EE.B.6, 6.EE.B.7	2	1
6-5 One-Step Division Equations	6.EE.B.6, 6.EE.B.7	2	1
Put It All Together 1: Lessons 6-1, 6-2, 6-3, 6-4, and 6-5		0.5	0.25
6-6 Inequalities	6.EE.B.5, 6.EE.B.8, <i>Also addresses 6.NS.C.6.C, 6.EE.B.6</i>	3	1.5
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>16.5</b>	<b>8.25</b>

## Coherence

### Vertical Alignment

#### Previous

Students write and evaluate numerical and algebraic expressions.

**6.NS.B.4, 6.EE.A.1, 6.EE.A.2.A, 6.EE.A.2.B, 6.EE.A.2.C, 6.EE.A.3, 6.EE.A.4, 6.EE.B.6**

#### Now

Students write and solve one-step equations and inequalities.

**6.EE.B.5, 6.EE.B.6, 6.EE.B.7, 6.EE.B.8**

#### Next

Students will express relationships between two variables using tables, equations, and graphs.

**6.EE.C.9**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of expressions, inequality symbols, and inverse operations to develop *understanding* of equations and inequalities. They use their understanding of models, properties of equality, and substitution to build *fluency* with writing and solving one-step addition, subtraction, multiplication, and division equations. Fluency is also built through writing, solving, and graphing inequalities. They apply their understanding of equations and inequalities to solve multi-step, real-world problems.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Relationships Between Two Variables

## Module Goal

Express relationships between two variables using tables, equations, and graphs.

## Focus

**Domain:** Expressions and Equations

**Major Cluster(s):** **6.EE.C** Represent and analyze quantitative relationships between dependent and independent variables.

**Standards for Mathematical Content:**

**6.EE.C.9** Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. *For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation  $d = 65t$  to represent the relationship between distance and time.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- solve one-step equations involving each of the four operations, with positive rational numbers
- graph points in all four quadrants of the coordinate plane

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
7-1 Relationships Between Two Variables	6.EE.C.9, Also addresses 6.EE.A.2.C	3	1.5
7-2 Write Equations to Represent Relationships Represented in Tables	6.EE.C.9, Also addresses 6.EE.B.6, 6.EE.B.7	2	1
Put It All Together 1: Lessons 7-1 and 7-2		0.5	0.25
7-3 Graphs of Relationships	6.EE.C.9, Also addresses 6.RP.A.3.A, 6.NS.C.6.C, 6.EE.B.6, 6.EE.B.7	1	0.5
7-4 Multiple Representations	6.EE.C.9, Also addresses 6.RP.A.3.A, 6.NS.C.6.C, 6.EE.B.6, 6.EE.B.7	1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>10.5</b>	<b>5.25</b>

## Coherence

### Vertical Alignment

#### Previous

Students represented ratio relationships using tables and graphs.

**6.RP.A.3, 6.RP.A.3.A**

#### Now

Students express relationships between two variables using tables, equations, and graphs.

**6.EE.C.9**

#### Next

Students will use tables and graphs to determine if a relationship between two quantities is proportional.

**7.RP.A.2**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of tables, equations, and the coordinate plane to develop understanding of relationships between two variables. They build fluency with using a table to find variable values, writing equations, and graphing the relationship. They also apply their understanding of relationships between two variables to solve real-world problems.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Module Goal

Find areas of parallelograms, triangles, trapezoids, regular polygons, and polygons on the coordinate plane.

## Focus

**Domain:** Geometry

**Major Cluster(s):** **6.EE.A** Apply and extend previous understandings of arithmetic to algebraic expressions.

**Supporting Cluster(s):** **6.G.A** Solve real-world and mathematical problems involving area, surface area, and volume.

**Standards for Mathematical Content:**

**6.G.A.1** Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

**6.G.A.3** Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.

*Also addresses 6.EE.A.2 and 6.EE.A.2.C.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- find the area and perimeter of rectangles
- fluently perform all four operations with positive rational numbers
- solve one-step equations

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
8-1 Area of Parallelograms	6.G.A.1, 6.EE.A.2, 6.EE.A.2.C	2	1
8-2 Area of Triangles	6.G.A.1, 6.EE.A.2, 6.EE.A.2.C	3	1.5
8-3 Area of Trapezoids	6.G.A.1, 6.EE.A.2, 6.EE.A.2.C	2	1
8-4 Area of Regular Polygons	6.G.A.1	2	1
Put It All Together 1: Lessons 8-1, 8-2, 8-3, and 8-4		0.5	0.25
8-5 Polygons on the Coordinate Plane	6.G.A.3, <i>Also addresses 6.G.A.1</i>	3	1.5
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>15.5</b>	<b>7.75</b>

## Coherence

### Vertical Alignment

#### Previous

Students classified two-dimensional figures.  
**5.G.B.3, 5.G.B.4**

#### Now

Students find areas of parallelograms, triangles, trapezoids, regular polygons, and polygons on the coordinate plane.  
**6.G.A.1, 6.G.A.3, 6.EE.A.2, 6.EE.A.2.C**

#### Next

Students will find volume and surface area of triangular and rectangular prisms and pyramids.  
**6.G.A.2, 6.G.A.4**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of polygons, basic computation, and the coordinate plane to develop *understanding* of area. They use this understanding to build *fluency* with finding the area of parallelograms, triangles, trapezoids, and regular polygons. They also build *fluency* with finding area by using coordinates of polygons on the coordinate plane. They apply their understanding of area to solve multi-step, real-world problems.

EXPLORE

LEARN

EXAMPLE & PRACTICE

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

# Volume and Surface Area

## Module Goal

Find volume of rectangular prisms and surface area of triangular and rectangular prisms and pyramids.

## Focus

**Domain:** Geometry

**Supporting Cluster(s):** **6.G.A** Solve real-world and mathematical problems involving area, surface area, and volume.

**Standards for Mathematical Content:**

**6.G.A.2** Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas  $V = lwh$  and  $V = Bh$  to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.

**6.G.A.4** Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

*Also addresses 6.EE.B.6.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- find the area of triangles and quadrilaterals
- fluently perform all four operations with positive rational numbers
- solve one-step equations

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
9-1	Volume of Rectangular Prisms 6.G.A.2, <i>Also addresses 6.EE.B.6</i>	2	1
9-2	Surface Area of Rectangular Prisms 6.G.A.4	3	1.5
Put It All Together 1: Lessons 9-1 and 9-2		0.5	0.25
9-3	Surface Area of Triangular Prisms 6.G.A.4	3	1.5
9-4	Surface Area of Pyramids 6.G.A.4	2	1
Module Review		1	0.5
Module Assessment		1	0.5
Total Days		13.5	6.75

## Coherence

### Vertical Alignment

#### Previous

Students found areas of parallelograms, triangles, trapezoids, regular polygons, and polygons on the coordinate plane.

**6.G.A.1, 6.G.A.3, 6.EE.A.2.C**

#### Now

Students find volume of rectangular prisms and surface area of triangular and rectangular prisms and pyramids.

**6.G.A.2, 6.G.A.4**

#### Next

Students will solve problems involving volume and surface area of prisms and pyramids.

**7.G.B.6**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of polygons and area to develop understanding of volume and surface area. They use this understanding to build fluency with finding the volume of rectangular prisms, triangular prisms, and pyramids. They also apply their understanding of volume and surface area to solve multi-step, real-world problems.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Statistical Measures and Displays

## Module Goal

Find and use statistical measures.

## Focus

**Domain:** Statistics and Probability

**Additional Cluster(s):**

**6.SP.A** Develop understanding of statistical variability.

**6.SP.B** Summarize and describe distributions.

**Standards for Mathematical Content:**

**6.SP.A.3** Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.

**6.SP.B.5** Summarize numerical data sets in relation to their context.

*Also addresses 6.SP.A.1, 6.SP.A.2, 6.SP.B.4, 6.SP.B.5.A, 6.SP.B.5.B,*

*6.SP.B.5.C, 6.SP.B.5.D.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- fluently perform all four operations with positive rational numbers
- solve one-step equations
- graph positive rational numbers on the number line
- find the absolute value of integers

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
10-1	Statistical Questions 6.SP.A.1	1	0.5
10-2	Dot Plots and Histograms 6.SP.B.4, 6.SP.B.5, 6.SP.B.5.A	1	0.5
10-3	Measures of Center 6.SP.A.3, 6.SP.B.4, 6.SP.B.5, 6.SP.B.5.A, 6.SP.B.5.B, 6.SP.B.5.C	3	1.5
Put It All Together 1: Lessons 10-1, 10-2, and 10-3		0.5	0.25
10-4	Interquartile Range and Box Plots 6.SP.A.2, 6.SP.A.3, 6.SP.B.4, 6.SP.B.5, 6.SP.B.5.C	1	0.5
10-5	Mean Absolute Deviation 6.SP.A.3, 6.SP.B.5, 6.SP.B.5.A, 6.SP.B.5.B, 6.SP.B.5.C	1	0.5
10-6	Outliers 6.SP.A.3, 6.SP.B.4, 6.SP.B.5, 6.SP.B.5.C, 6.SP.B.5.D	2	1
10-7	Interpret Graphical Displays 6.SP.A.2, 6.SP.A.3, 6.SP.B.4, 6.SP.B.5, 6.SP.B.5.A, 6.SP.B.5.B, 6.SP.B.5.C, 6.SP.B.5.D	2	1
Put It All Together 2: Lessons 10-2, 10-3, 10-4, 10-5, 10-6, and 10-7		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
Total Days		15	7.5

## Coherence

### Vertical Alignment

#### Previous

Students represented and interpreted data.

**5.MD.B.2**

#### Now

Students find and use statistical measures.

**6.SP.A.1, 6.SP.A.2, 6.SP.A.3, 6.SP.B.4, 6.SP.B.5**

#### Next

Students will use statistics to compare two populations.

**7.SP.B.4**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of representing and interpreting data to develop understanding of statistical measures.

They use this understanding to build fluency with finding measures of center and variation as well as identifying outliers. They also build fluency with constructing and interpreting dot plots, histograms, and box plots.

They apply their understanding of statistical measures to solve real-world problems.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Proportional Relationships

## Module Goal

Analyze multiple representations of proportional relationships (tables, graphs, and equations).

## Focus

**Domain:** Ratios and Proportional Relationships

**Major Cluster(s):**

**7.RP.A** Analyze proportional relationships and use them to solve real-world and mathematical problems.

**Standards for Mathematical Content:**

**7.RP.A.2** Recognize and represent proportional relationships between quantities.

**7.RP.A.2.A** Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.

*Also addresses 7.RP.A.1, 7.RP.A.2.B, 7.RP.A.2.C, 7.RP.A.2.D, and 7.RP.A.3*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- find unit rates involving whole numbers
- fluently divide fractions and mixed numbers

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
1-1 Unit Rates Involving Ratios of Fractions	7.RP.A.1	2	1
1-2 Understand Proportional Relationships	7.RP.A.2	2	1
1-3 Tables of Proportional Relationships	7.RP.A.2, 7.RP.A.2.A, 7.RP.A.2.B	2	1
1-4 Graphs of Proportional Relationships	7.RP.A.2, 7.RP.A.2.A, 7.RP.A.2.B, 7.RP.A.2.D	3	1.5
1-5 Equations of Proportional Relationships	7.RP.A.2, 7.RP.A.2.B, 7.RP.A.2.C	2	1
Put It All Together 1: Lessons 1-3, 1-4, and 1-5		0.5	0.25
1-6 Solve Problems Involving Proportional Relationships	7.RP.A.2, 7.RP.A.3	2	1
Put It All Together 2: Lessons 1-3 through 1-5		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
	<b>Total Days</b>	<b>17</b>	<b>8.5</b>

## Coherence

### Vertical Alignment

#### Previous

Students used rate and ratio reasoning to solve real-world and mathematical problems.

**6.RP.A.1**

#### Now

Students analyze multiple representations of proportional relationships (tables, graphs, and equations).

**7.RP.A.1, 7.RP.A.2**

#### Next

Students will understand the connection between proportional relationships, lines, and linear equations.

**8.EE.B.5**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of ratios and rates to develop *understanding* of proportional relationships. They use this understanding to build *fluency* with proportional relationships by representing them with tables, graphs, and equations, and finding the constant of proportionality.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Solve Percent Problems

## Module Goal

Solve multi-step percent problems.

## Focus

**Domain:** Ratios and Proportional Relationships

**Major Cluster(s):** **7.RP.A** Analyze proportional relationships and use them to solve real-world and mathematical problems.

**7.EE.A** Use properties of operations to generate equivalent expressions.

**Standards for Mathematical Content:**

**7.RP.A.3** Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

**7.EE.A.2** Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. *Also addresses 7.EE.B.3.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- operations with decimals and percents
- finding the percent of a number
- finding the whole, given the part and the percent

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
2-1 Percent of Change	7.RP.A.3, <i>Also addresses 7.EE.B.3</i>	2	1
2-2 Tax	7.RP.A.3, 7.EE.A.2, <i>Also addresses 7.EE.B.3</i>	2	1
2-3 Tips and Markups	7.RP.A.3, 7.EE.A.2, <i>Also addresses 7.EE.B.3</i>	1	0.5
2-4 Discounts	7.RP.A.3, 7.EE.A.2, <i>Also addresses 7.EE.B.3</i>	1	0.5
Put It All Together 1: Lessons 2-1 through 2-4		0.5	0.25
2-5 Interest	7.RP.A.3, <i>Also addresses 7.EE.B.3</i>	1	0.5
2-6 Commission and Fees	7.RP.A.3, 7.EE.A.2, <i>Also addresses 7.EE.B.3</i>	1	0.5
2-7 Percent Error	7.RP.A.3, <i>Also addresses 7.EE.B.3</i>	1	0.5
Put It All Together 2: Lessons 2-5 through 2-7		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
Total Days		13	6.5

## Coherence

## Vertical Alignment

## Previous

Students used ratio and rate reasoning to find the percent of a number, and to find the whole, given the part and the percent.

## 6.RP.A.3

## Now

Students solve multi-step ratio and percent problems.

## 7.RP.A.3, 7.EE.A.2

## Next

Students will use ratios to find the probability of an event occurring.

## 7.SP.C.7

## Rigor

## The Three Pillars of Rigor

In this module, students draw on their *understanding* of proportional relationships to build *fluency* with using ratio reasoning and properties of operations to solve algebraic equations involving percents. They *apply* their fluency to solve multi-step ratio and percent problems.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE &amp; PRACTICE

# Operations with Integers

## Module Goal

Add, subtract, multiply, and divide integers.

## Focus

**Domain:** The Number System

**Major Cluster(s):**

**7.NS.A** Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

**7.EE.B** Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

**Standards for Mathematical Content:**

**7.NS.A.1** Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

**7.NS.A.2** Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. *Also addresses 7.NS.A.3 and 7.EE.B.3.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- find the absolute value of integers
- plot integers along a number line
- apply the Order of Operations to simplify numerical expressions involving whole numbers

Use the Module Pretest to diagnose students' readiness for this module. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
3-1 Add Integers	7.NS.A.1, 7.NS.A.1.A, 7.NS.A.1.B, 7.NS.A.1.D	3	1.5
3-2 Subtract Integers	7.NS.A.1, 7.NS.A.1.C	3	1.5
Put It All Together: Lessons 3-1 and 3-2		0.5	0.25
3-3 Multiply Integers	7.NS.A.2, 7.NS.A.2.A, 7.NS.A.2.C	3	1.5
3-4 Divide Integers	7.NS.A.2, 7.NS.A.2.B, 7.NS.A.2.C	2	1
3-5 Apply Integer Operations	7.NS.A.1, 7.NS.A.1.D, 7.NS.A.2, 7.NS.A.2.C, 7.NS.A.3, 7.EE.B.3	1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>15.5</b>	<b>7.75</b>

## Coherence

### Vertical Alignment

#### Previous

Students applied and extended previous understandings of numbers to the system of rational numbers.

**6.NS.C**

#### Now

Students add, subtract, multiply, and divide integers.

**7.NS.A.1, 7.NS.A.2, 7.NS.A.3**

#### Next

Students will add, subtract, multiply, and divide rational numbers.

**7.NS.A.1, 7.NS.A.2, 7.NS.A.3**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of rational numbers (gained in Grade 6) to develop *understanding* of operations with Integers. They use this understanding to build *fluency* with Integer operations and the order of operations. They will *apply* their fluency to solve multi-step problems involving Integer operations.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Operations with Rational Numbers

## Module Goal

Perform addition, subtraction, multiplication, and division of rational numbers.

## Focus

**Domain:** The Number System

**Major Cluster(s):**

**7.NS.A** Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

**Standards for Mathematical Content:**

**7.NS.A.1** Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

**7.NS.A.2** Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.

*Also addresses 7.NS.A.3, 7.EE.A.2, and 7.EE.B.3.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- perform the four operations with integers
- fluently perform the four operations with positive rational numbers
- apply the Order of Operations to simplify numerical expressions involving integers or positive rational numbers

## Suggested Pacing

Lesson	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
4-1 Rational Numbers	7.NS.A.2, 7.NS.A.2.B, 7.NS.A.2.D	2	1
4-2 Add Rational Numbers	7.NS.A.1, 7.NS.A.1.A, 7.NS.A.1.B, 7.NS.A.1.D, 7.NS.A.2, 7.NS.A.2.B, 7.EE.B.3	2	1
4-3 Subtract Rational Numbers	7.NS.A.1, 7.NS.A.1.C, 7.NS.A.1.D, 7.EE.B.3	1	0.5
Put It All Together 1: Lessons 4-1 through 4-3		0.5	0.25
4-4 Multiply Rational Numbers	7.NS.A.2, 7.NS.A.2.A, 7.NS.A.2.C, 7.NS.A.3	1	0.5
4-5 Divide Rational Numbers	7.NS.A.2, 7.NS.A.2.B, 7.NS.A.2.C, 7.NS.A.3	1	0.5
Put It All Together 2: Lessons 4-1 through 4-5		0.5	0.25
4-6 Apply Rational Number Operations	7.NS.A.1, 7.NS.A.1.D, 7.NS.A.2, 7.NS.A.2.C, 7.NS.A.3	1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
Total Days		12	6

## Coherence

### Vertical Alignment

#### Previous

Students used and justified the rules for adding, subtracting, multiplying, and dividing integers.

**7.NS.A.3**

#### Now

Students add, subtract, multiply, and divide rational numbers.

**7.NS.A.1, 7.NS.A.2**

#### Next

Students will use properties of operations to simplify algebraic expressions

**7.EE.A.1**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of rational numbers (gained in Grade 6) and their knowledge of integers (gained in Module 3) to develop an *understanding* of performing mathematical operations with rational numbers. They will use that understanding to build *fluency* in using mathematical operations with rational numbers.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Simplify Algebraic Expressions

## Module Goal

Use properties of operations to simplify algebraic expressions.

## Focus

**Domain:** Expressions and Equations

**Major Cluster(s):**

**7.EE.A** Use properties of operations to generate equivalent expressions.

**Standards for Mathematical Content:**

**7.EE.A.1** Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

**7.EE.A.2** Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- fluently perform the four operations with rational numbers
- apply the Order of Operations to numerical expressions involving rational numbers
- evaluate simple algebraic expressions

Use the Module Pretest to diagnose students' readiness for this module. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Coherence

### Vertical Alignment

#### Previous

Students added, subtracted, multiplied, and divided integers.

**7.NS.A.3**

#### Now

Students use properties of operations to simplify algebraic expressions.

**7.EE.A.1, 7.EE.A.2**

#### Next

Students will apply the use of expressions to write and solve equations and formulas.

**7.EE.B.4**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of operations with algebraic expressions, greatest common factors and the distributive property (all gained in grade 6) to gain an understanding of simplifying algebraic expressions which includes distributing integers across algebraic expressions, adding and subtracting algebraic expressions, combining like terms, and factoring algebraic expressions.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
5-1 Simplify Algebraic Expressions	7.EE.A.1, 7.EE.A.2	2	1
5-2 Add Linear Expressions	7.EE.A.1	2	1
5-3 Subtract Linear Expressions	7.EE.A.1	1	0.5
Put It All Together 1: Lessons 5-1 through 5-3		0.5	0.25
5-4 Factor Linear Expressions	7.EE.A.1	2	1
5-5 Combine Operations with Linear Expressions	7.EE.A.1	1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
	<b>Total Days</b>	<b>11.5</b>	<b>5.75</b>

# Write and Solve Inequalities

## Module Goal

Write and solve one-step inequalities and two-step inequalities.

## Focus

**Domain:** Expressions and Equations

**Major Cluster(s):**

**7.EE.B** Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

**Standards for Mathematical Content:**

**7.EE.B.4** Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

**7.EE.B.4.B** Solve word problems leading to inequalities of the form  $px + q > r$  or  $px + q < r$ , where  $p$ ,  $q$ , and  $r$  are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- graph an inequality on the number line
- fluently perform the four operations with rational numbers

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
7-1 Solve One-Step Addition and Subtraction Inequalities	7.EE.B.4, 7.EE.B.4.B	2	1
7-2 Write and Solve One-Step Addition and Subtraction Inequalities	7.EE.B.4, 7.EE.B.4.B	1	0.5
7-3 Solve One-Step Multiplication and Division Inequalities with Positive Coefficients	7.EE.B.4, 7.EE.B.4.B	2	1
7-4 Solve One-Step Multiplication and Division Inequalities with Negative Coefficients	7.EE.B.4, 7.EE.B.4.B	2	1
Put It All Together 1: Lessons 7-1, 7-3, and 7-4		0.5	0.25
7-5 Write and Solve One-Step Multiplication and Division Inequalities	7.EE.B.4, 7.EE.B.4.B	1	0.5
7-6 Write and Solve Two-Step Inequalities	7.EE.B.4, 7.EE.B.4.B	1	0.5
Put It All Together 2: Lessons 7-2, 7-5, and 7-6		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>13</b>	<b>6.5</b>

## Coherence

### Vertical Alignment

#### Previous

Students write and solved two-step equations.  
**7.EE.B.4, 7.EE.B.4.A**

#### Now

Students write and solve one-step inequalities and two-step inequalities.  
**7.EE.B.4, 7.EE.B.4.B**

#### Next

Students will graph the solution to a linear inequality in two variables as a half-plane.  
**HSA.REI.D.12**

## Rigor

### The Three Pillars of Rigor

In this module, students will draw on their knowledge of inequalities (gained in Grade 6) and equations to build an *understanding* of writing, solving, and graphing one- and two-step inequalities. They will use this understanding to build *fluency* in solving and graphing one- and two-step inequalities. They will *apply* their fluency to write, solve and graph one- and two-step inequalities that represent real-world situations.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Write and Solve Inequalities

## Module Goal

Write and solve one-step inequalities and two-step inequalities.

## Focus

**Domain:** Expressions and Equations

**Major Cluster(s):**

**7.EE.B** Solve real-life and mathematical problems using numerical and algebraic expressions and equations.

**Standards for Mathematical Content:**

**7.EE.B.4** Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

**7.EE.B.4.B** Solve word problems leading to inequalities of the form  $px + q > r$  or  $px + q < r$ , where  $p$ ,  $q$ , and  $r$  are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem.

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- graph an inequality on the number line
- fluently perform the four operations with rational numbers

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
7-1 Solve One-Step Addition and Subtraction Inequalities	7.EE.B.4, 7.EE.B.4.B	2	1
7-2 Write and Solve One-Step Addition and Subtraction Inequalities	7.EE.B.4, 7.EE.B.4.B	1	0.5
7-3 Solve One-Step Multiplication and Division Inequalities with Positive Coefficients	7.EE.B.4, 7.EE.B.4.B	2	1
7-4 Solve One-Step Multiplication and Division Inequalities with Negative Coefficients	7.EE.B.4, 7.EE.B.4.B	2	1
Put It All Together 1: Lessons 7-1, 7-3, and 7-4		0.5	0.25
7-5 Write and Solve One-Step Multiplication and Division Inequalities	7.EE.B.4, 7.EE.B.4.B	1	0.5
7-6 Write and Solve Two-Step Inequalities	7.EE.B.4, 7.EE.B.4.B	1	0.5
Put It All Together 2: Lessons 7-2, 7-5, and 7-6		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>13</b>	<b>6.5</b>

## Coherence

### Vertical Alignment

#### Previous

Students write and solved two-step equations.  
**7.EE.B.4, 7.EE.B.4.A**

#### Now

Students write and solve one-step inequalities and two-step inequalities.  
**7.EE.B.4, 7.EE.B.4.B**

#### Next

Students will graph the solution to a linear inequality in two variables as a half-plane.  
**HSA.REI.D.12**

## Rigor

### The Three Pillars of Rigor

In this module, students will draw on their knowledge of inequalities (gained in Grade 6) and equations to build an *understanding* of writing, solving, and graphing one- and two-step inequalities. They will use this understanding to build *fluency* in solving and graphing one- and two-step inequalities. They will *apply* their fluency to write, solve and graph one- and two-step inequalities that represent real-world situations.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Geometric Figures

## Module Goal

Draw, describe, and solve problems involving geometric figures.

## Focus

**Domain:** Geometry

**Additional Cluster(s):**

**7.G.A** Draw, construct and describe geometrical figures and describe the relationships between them.

**7.G.B** Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

**Standards for Mathematical Content:**

**7.G.A.1** Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

**7.G.B.5** Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- use a protractor to draw an angle of a specified measure
- solve one-step and two-step equations
- convert measurement units within the customary and metric systems

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
8-1 Vertical and Adjacent Angles	7.G.B.5, <i>Also addresses 7.EE.B.3, 7.EE.B.4.A</i>	2	1
8-2 Complementary and Supplementary Angles	7.G.B.5, <i>Also addresses 7.EE.B.3, 7.EE.B.4.A</i>	2	1
Put It All Together: Lessons 8-1 and 8-2		0.5	0.25
8-3 Triangles	7.G.A.2	2	1
8-4 Scale Drawings	7.G.A.1, <i>Also addresses 7.RP.A.2, 7.RP.A.2.B, 7.RP.A.3, 7.NS.A.3, 7.EE.B.3</i>	2	1
8-5 Three-Dimensional Figures	7.G.A.3	1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
	<b>Total Days</b>	<b>12.5</b>	<b>6.25</b>

## Coherence

### Vertical Alignment

#### Previous

Students solved real-world and mathematical problems involving area, surface area, and volume.

**6.G.A.1, 6.G.A.2, 6.G.A.3, 6.G.A.4**

#### Now

Students draw, describe, and solve problems involving geometric figures.

**7.G.A.1, 7.G.A.2, 7.G.A.3, 7.G.B.5**

#### Next

Students will find the circumference and area of circles

**7.G.B.4**

## Rigor

### The Three Pillars of Rigor

In this module, students will draw on their knowledge of lines and angles, equivalent ratios, and three-dimensional figures to gain *understanding* of angles, triangles, and scale drawings. They will use this understanding to develop *fluency* with vertical, adjacent, complementary and supplementary angles, classifying and drawing triangles, scale drawings and three-dimensional figures. They will *apply* their fluency to solve real-world problems.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Measure Figures

## Module Goal

Solve real-world and mathematical problems involving area, volume, and surface area.

## Focus

**Domain:** Geometry

**Additional Cluster(s):** **7.G.B** Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.

**Standards for Mathematical Content:**

**7.G.B.4** Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

**7.G.B.6** Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. *Also addresses 7.NS.A.3, 7.EE.B.4, 7.EE.B.4.A, and 7.G.A.1.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- solve one-step and two-step equations
- evaluate powers and exponents
- find the area of triangles and quadrilaterals

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
9-1	Circumference of Circles	2	1
9-2	Area of Circles	2	1
9-3	Area of Composite Figures	1	0.5
Put It All Together 1: Lessons 9-1 through 9-3		0.5	0.25
9-4	Volume	2	1
9-5	Surface Area	2	1
9-6	Volume and Surface Area of Composite Figures	1	0.5
Put It All Together 2: Lessons 9-4 through 9-6		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
Total Days		14	7

## Coherence

### Vertical Alignment

#### Previous

Students found the area of two-dimensional figures and the volume of rectangular prisms.

**6.G.A.1, 6.G.A.2**

#### Now

Students solve real-world and mathematical problems involving area, volume, and surface area.

**7.G.B.4, 7.G.B.6**

#### Next

Students will find the volume of cylinders, cones, and spheres.

**8.G.C.9**

## Rigor

### The Three Pillars of Rigor

In this module, students will develop an *understanding* of radius and diameter, and how they relate to finding the circumference and area of circles. They will also draw on their knowledge of finding the area of triangles and quadrilaterals to gain *fluency* in finding the area of composite figures, volume, and surface area. They will use this knowledge to gain *fluency* in finding the volume and surface area of composite three-dimensional figures. They will also *apply* their fluency to solve real-world problems.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Module Goal

Understand probability, find the probability of simple events and compound events, and design simulations.

## Focus

**Domain:** Statistics and Probability

**Supporting Cluster(s): 7.SP.C** Investigate chance processes and develop, use, and evaluate probability models.

**Standards for Mathematical Content:**

**7.SP.C.6** Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability.

**7.SP.C.7** Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. *Also addresses 7.SP.C.5, 7.SP.C.7.A, 7.SP.C.7.B, 7.SP.C.8, 7.SP.C.8.A, 7.SP.C.8.B, and 7.SP.C.8.C.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- express equivalent forms of fractions, decimals, and percents
- solve proportions

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
10-1 Find Likelihoods	7.SP.C.5	2	1
10-2 Relative Frequency of Simple Events	7.SP.C.6, 7.SP.C.7, 7.SP.C.7.B	2	1
Put It All Together 1: Lessons 10-1 and 10-2		0.5	0.25
10-3 Theoretical Probability of Simple Events	7.SP.C.7, 7.SP.C.7.A	2	1
10-4 Compare Probabilities of Simple Events	7.SP.C.6, 7.SP.C.7, 7.SP.C.7.A, 7.SP.C.7.B	1	0.5
Put It All Together 2: Lessons 10-1 through 10-4		0.5	0.25
10-5 Probability of Compound Events	7.SP.C.8, 7.SP.C.8.A, 7.SP.C.8.B	2	1
10-6 Simulate Chance Events	7.SP.C.8, 7.SP.C.8.C	2	1
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>15</b>	<b>7.5</b>

## Coherence

### Vertical Alignment

#### Previous

Students understood ratios and used them to solve problems.  
**6.RP.A.1, 6.RP.A.3**

#### Now

Students find the probability of simple events and compound events.  
**7.SP.C.5, 7.SP.C.6, 7.SP.C.7, 7.SP.C.8**

#### Next

Students will understand independence and conditional probability.  
**HSS.CP.A.2, HSS.CP.A.3**

## Rigor

### The Three Pillars of Rigor

In this module, students will develop an *understanding* of probability of simple and compound events. They will use this understanding to develop *fluency* in finding likelihoods, relative frequencies, and determining the sample space for compound events. They will also compare probabilities, design simulations, and *apply* their understanding of probability to solve real-world problems.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Module Goal

Analyze samples and interpret the data.

## Focus

**Domain:** Statistics and Probability

**Supporting and Additional Cluster(s):**

**7.SP.A** Use random sampling to draw inferences about a population.

**7.SP.B** Draw informal comparative inferences about two populations.

**Standards for Mathematical Content:**

**7.SP.A.1** Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences.

**7.SP.A.2** Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions.

Also addresses *7.RP.A.2*, *7.RP.A.3*, *7.SP.B.3*, and *7.SP.B.4*.

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- write fractions in simplest form
- express equivalent forms of fractions, decimals, and percents
- find the percent of a number
- find the mean and mean absolute deviation of a set of data

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
11-1	Biased and Unbiased Samples 7.SP.A.1, 7.SP.A.2	2	1
11-2	Make Predictions 7.SP.A.2, Also addresses 7.RP.A.2, 7.RP.A.3	1	0.5
11-3	Generate Multiple Samples 7.SP.A.2, Also addresses 7.RP.A.2	2	1
Put It All Together: Lessons 11-1 through 11-3		0.5	0.25
11-4	Compare Two Populations 7.SP.B.4	2	1
11-5	Assess Visual Overlap 7.SP.B.3	1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
Total Days		11.5	5.75

## Coherence

## Vertical Alignment

## Previous

Students developed an understanding of statistical variability.  
**6.SP.A.1, 6.SP.A.2, 6.SP.A.3**

## Now

Students analyze samples and interpret the data.  
**7.SP.A.1, 7.SP.A.2**

## Next

Students will make inferences and justify conclusions from sample experiments.  
**HSS.IC.B.3, HSS.IC.B.4, HSS.IC.B.5, HSS.IC.B.6**

## Rigor

## The Three Pillars of Rigor

In this module, students draw upon their knowledge of measures of center, measures of variation, and ratios from Grade 6 to develop *understanding* about statistical sampling and making inferences and predictions. Students come to *understand* that taking multiple samples can help them gauge the variation in their predictions. Students build *fluency* in using ratio reasoning to make predictions about a population and in using the measures of center and variation to compare two sample distributions. They *apply* their *understanding* of the mean and mean absolute deviation to informally assess the degree of visual overlap between two distributions to infer how close the population means might be.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE &amp; PRACTICE

# Exponents and Scientific Notation

## Module Goal

Develop and use the Laws of Exponents to evaluate, simplify, and perform computations with expressions with powers.

## Focus

**Domain:** Expressions and Equations

**Major Cluster(s):**

**8.EE.A** Work with radicals and integer exponents.

**Standards for Mathematical Content:**

**8.EE.A.1** Know and apply the properties of integer exponents to generate equivalent numerical expressions.

**8.EE.A.4** Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Used scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.

Also addresses **8.EE.A.3**.

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- fluently multiply rational numbers

Use the Module Pretest to diagnose students' readiness for this module. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
1-1 Powers and Exponents	Foundational for 8.EE.A.1	2	1
1-2 Multiply and Divide Monomials	8.EE.A.1	2	1
Put It All Together 1: Lessons 1-1 and 1-2		0.5	0.25
1-3 Powers of Monomials	8.EE.A.1	2	1
Put It All Together 2: Lessons 1-2 and 1-3		0.5	0.25
1-4 Zero and Negative Exponents	8.EE.A.1	2	1
Put It All Together 3: Lessons 1-2, 1-3, and 1-4		0.5	0.25
1-5 Scientific Notation	8.EE.A.3, 8.EE.A.4	2	1
1-6 Compute with Scientific Notation	8.EE.A.3, 8.EE.A.4, Also addresses 8.EE.A.1	1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>15.5</b>	<b>7.75</b>

## Coherence

### Vertical Alignment

#### Previous

Students used the order of operations to evaluate expressions without exponents.

**7.EE.A.1, 7.EE.A.2**

#### Now

Students develop and use the Laws of Exponents to evaluate, simplify, and perform computations with expressions with powers.

**8.EE.A.1, 8.EE.A.3, 8.EE.A.4**

#### Next

Students will learn about the real number system by studying rational and irrational numbers. **8.NS.A.1, 8.NS.A.2, 8.EE.A.2**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of exponents to develop understanding of the properties of exponents and scientific notation. They use this understanding to build fluency with simplifying algebraic expressions involving powers and computing with scientific notation. They apply their fluency to solve multi-step real-world problems.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Real Numbers

## Module Goal

Learn about the real number system by identifying, calculating, and estimating irrational numbers and comparing them to rational numbers.

## Focus

**Domain:** The Number System

**Major Cluster(s):** **8.EE.A** Work with radicals and integer exponents.

**Supporting Cluster(s):** **8.NS.A** Know that there are numbers that are not rational, and approximate them by rational numbers.

**Standards for Mathematical Content:**

**8.NS.A.1** Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.

**8.NS.A.2** Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g.,  $\pi^2$ ).

*Also addresses 8.EE.A.2.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

 Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- write equivalent forms of fractions, decimals, and percents
- find powers

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
2-1 Terminating and Repeating Decimals	8.NS.A.1	2	1
2-2 Roots	8.EE.A.2	2	1
2-3 Real Numbers	8.NS.A.1, 8.EE.A.2	2	1
Put It All Together 1: Lessons 2-1, 2-2, and 2-3		0.5	0.25
2-4 Estimate Irrational Numbers	8.NS.A.2, <i>Also addresses 8.EE.A.2</i>	2	1
2-5 Compare and Order Real Numbers	8.NS.A.1, 8.NS.A.2	2	1
Put It All Together 2: Lessons 2-4 and 2-5		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>14</b>	<b>7</b>

## Coherence

## Vertical Alignment

## Previous

Students studied the set of rational numbers.

**6.NS.C.6, 7.NS.A.2.D**

## Now

Students learn about the real number system by identifying, calculating, and estimating irrational numbers and comparing them to rational numbers.

**8.NS.A.1, 8.NS.A.2, 8.EE.A.2**

## Next

Students will study and use the properties of rational and irrational numbers.

**HSN.RN.B.3**

## Rigor

## The Three Pillars of Rigor

In this module, students draw on their knowledge of the set of rational numbers to develop *understanding* of the set of real numbers. They use this understanding to build *fluency* with determining if numbers are rational or irrational, finding roots of perfect squares and cubes, and estimating roots of numbers. They *apply* their fluency to solve multi-step real-world problems.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Solve Equations with Variables on Each Side

## Module Goal

Write and solve linear equations with variables on each side.

## Focus

**Domain:** Expressions and Equations

**Major Cluster(s):**

**8.EE.C** Analyze and solve linear equations and pairs of simultaneous linear equations.

**Standards for Mathematical Content:**

**8.EE.C.7** Solve linear equations in one variable.

**8.EE.C.7.B** Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

*Also addresses 8.EE.C.7.A.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

+ solve one-step and two-step equations involving rational numbers

Use the Module Pretest to diagnose students' readiness for this module.

You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Coherence

## Vertical Alignment

## Previous

Students write and solved equations of the form  $px + q = r$  and  $p(x + q) = r$ , where  $p$ ,  $q$ , and  $r$  are rational numbers.

**7.EE.B.4.A, 7.EE.B.4.B**

## Now

Students write and solve linear equations with variables on each side.

**8.EE.C.7, 8.EE.C.7.A, 8.EE.C.7.B**

## Next

Students will solve linear equations in one variable, including equations with coefficients represented by letters.

**HSA.REI.B.3**

## Rigor

## The Three Pillars of Rigor

In this module, students draw on their knowledge of solving one and two-step equations to build fluency with solving equations with variables on each side. They apply their fluency to solve real-world problems by writing and solving multi-step equations. Using their knowledge of solving multi-step equations, they determine if an equation has one, no, or infinitely many solutions.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE &amp; PRACTICE

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
3-1 Solve Equations with Variables on Each Side	8.EE.C.7, 8.EE.C.7.B	2	1
3-2 Write and Solve Equations with Variables on Each Side	8.EE.C.7, 8.EE.C.7.B, <i>Also addresses 8.EE.C.7.A</i>	2	1
3-3 Solve Multi-Step Equations	8.EE.C.7, 8.EE.C.7.B	2	1
3-4 Write and Solve Multi-Step Equations	8.EE.C.7, 8.EE.C.7.B, <i>Also addresses 8.EE.C.7.A</i>	2	1
3-5 Determine the Number of Solutions	8.EE.C.7, 8.EE.C.7.A	2	1
Put It All Together: Lessons 3-1 through 3-5		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>13.5</b>	<b>6.75</b>

# Linear Relationships and Slope

## Module Goal

Graph and write equations to represent linear relationships.

## Focus

**Domain:** Expressions and Equations

**Major Cluster(s):** **8.EE.B** Understand the connections between proportional relationships, lines, and linear equations.

*Also addresses 8.EE.C, 8.F.A, and 8.F.B.*

**Standards for Mathematical Content:** **8.EE.B.5** Graph proportional relationships, interpreting the unit rate as the slope of the graph.

Compare two different proportional relationships represented in different ways.

**8.EE.B.6** Use similar triangles to explain why the slope  $m$  is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation  $y = mx + b$  for a line intercepting the vertical axis at  $b$ .

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- + identify relationships as proportional or nonproportional
- + find unit rates
- + write fractions in simplest form
- + express relationships using multiple representations (tables, graphs, and equations)

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
4-1 Proportional Relationships and Slope	8.EE.B.5	2	1
4-2 Slope of a Line	Foundational for 8.EE.B.6, 8.F.B.4, 8.SP.A.3	3	1.5
4-3 Similar Triangles and Slope	8.EE.B.6	1	0.5
4-4 Direct Variation	8.EE.B.6, <i>Also addresses 8.EE.B.5</i>	2	1
Put It All Together 1: Lessons 4-1 through 4-4		0.5	0.25
4-5 Slope-Intercept Form	8.EE.B.6	3	1.5
4-6 Graph Linear Equations	Foundational for 8.EE.C.8.B, 8.F.A.3	2	1
Put It All Together 2: Lessons 4-5 and 4-6		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>17</b>	<b>8.5</b>

## Coherence

### Vertical Alignment

#### Previous

Students recognized and represented proportional relationships between quantities.

#### 7.RP.A.2

#### Now

Students graph and write equations to represent linear relationships.

**8.EE.B.5, 8.EE.B.6, Foundational for 8.F.B.4, Foundational for 8.SP.A.3, Foundational for 8.F.A.3, Foundational for 8.EE.C.8.B**

#### Next

Students will use functions to model relationships between two quantities.

#### 8.F.B.4

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of proportional relationships to develop *understanding* of the concept of slope. They use this understanding to build *fluency* with finding the slope of a line, and writing and graphing linear equations. They apply their fluency to solve multi-step real-world problems.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Functions

## Module Goal

Identify, construct, and compare linear and nonlinear functions.

## Focus

**Domain:** Functions

**Major Cluster(s):**

**8.F.A** Define, evaluate, and compare functions.

**8.F.B** Use functions to model relationships between quantities.

**Standards for Mathematical Content:**

**8.F.A.1** Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.

**8.F.A.3** Interpret the equation  $y = mx + b$  as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.

*Also addresses 8.F.A.2, 8.F.B.4, and 8.F.B.5.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- express relationships between two variables using multiple representations (tables, graphs, and equations)
- find the slope of the line between two points

Use the Module Pretest to diagnose students' readiness for this module. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
5-1 Identify Functions	8.F.A.1	2	1
5-2 Function Tables	8.F.A.1	2	1
5-3 Construct Linear Functions	8.F.B.4	2	1
Put It All Together 1: Lessons 5-1, 5-2, and 5-3		0.5	0.25
5-4 Compare Functions	8.F.A.2	2	1
5-5 Nonlinear Functions	8.F.A.3	2	1
5-6 Qualitative Graphs	8.F.B.5	2	1
Put It All Together 2: Lessons 5-4, 5-5, and 5-6		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>16</b>	<b>8</b>

## Coherence

### Vertical Alignment

#### Previous

Students graphed and wrote equations for proportional relationships. **8.EE.B.5, 8.EE.B.6, Foundational for 8.F.B.4, Foundational for 8.SP.A.3, Foundational for 8.F.A.3, Foundational for 8.EE.C.8.B**

#### Now

Students identify, construct, and compare linear and nonlinear functions. **8.F.A.1, 8.F.A.2, 8.F.A.3, 8.F.B.4, 8.F.B.5**

#### Next

Students will understand the concept of a function and use function notation. **HSF.IF.A.1, HSF.IF.A.2, HSF.IF.A.3**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of linear relationships to develop understanding of functions. They come to understand how to identify functions and the graphs of functions. Students use this understanding to build fluency with constructing linear functions and identifying nonlinear functions. They apply their understanding by comparing linear functions and analyzing functions qualitatively.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Systems of Linear Equations

## Module Goal

Write and solve systems of linear equations.

## Focus

**Domain:** Expressions and Equations

**Major Cluster(s):**

**8.EE.C** Analyze and solve linear equations and pairs of simultaneous linear equations.

**Standards for Mathematical Content:**

**8.EE.C.8.B** Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations.

**8.EE.C.8.C** Solve real-world and mathematical problems leading to two linear equations in two variables.

*Also addresses 8.EE.C.8 and 8.EE.C.8.A.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- + solve equations with variables on each side
- + graph equations of lines

Use the Module Pretest to diagnose students' readiness for this module. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
6-1 Solve Systems of Equations by Graphing	8.EE.C.8, 8.EE.C.8.A, 8.EE.C.8.B, 8.EE.C.8.C	3	1.5
6-2 Determine Number of Solutions	8.EE.C.8, 8.EE.C.8.A, 8.EE.C.8.B, 8.EE.C.8.C	3	1.5
6-3 Solve Systems of Equations by Substitution	8.EE.C.8, 8.EE.C.8.B, 8.EE.C.8.C	3	1.5
6-4 Solve Systems of Equations by Elimination	8.EE.C.8, 8.EE.C.8.B, 8.EE.C.8.C	3	1.5
6-5 Write and Solve Systems of Equations	8.EE.C.8, 8.EE.C.8.B, 8.EE.C.8.C <i>Also addresses 8.EE.C.8.A</i>	2	1
Put It All Together 1: Lessons 6-1, 6-2, 6-3, 6-4, and 6-5		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>17.5</b>	<b>8.75</b>

## Coherence

## Vertical Alignment

## Previous

Students graphed and wrote equations for proportional relationships. **8.EE.B.5, 8.EE.B.6, Foundational for 8.F.B.4, Foundational for 8.SP.A.3, Foundational for 8.F.A.3, Foundational for 8.EE.C.8.B**

## Now

Students write and solve systems of linear equations. **8.EE.C.8, 8.EE.C.8.A, 8.EE.C.8.B, 8.EE.C.8.C**

## Next

Students will use reasoning to solve equations and inequalities in one variable. **HSA.REI.A.1, HSA.REI.A.2, HSA.REI.B.3, HSA.REI.B.4**

## Rigor

## The Three Pillars of Rigor

In this module, students draw on their knowledge of linear equations to develop understanding of how to solve and determine the number of solutions to a system of two linear equations. They use this understanding to build fluency with solving a system of equations graphically and algebraically. They apply their fluency to solve real-world problems.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE &amp; PRACTICE

# Triangles and the Pythagorean Theorem

## Module Goal

Examine angle relationships with triangles and parallel lines and use the Pythagorean Theorem.

## Focus

**Domain:** Geometry

**Major Cluster(s): 8.G.A** Understand congruence and similarity using physical models, transparencies, or geometry software.

**8.G.B** Understand and apply the Pythagorean Theorem.

**Standards for Mathematical Content:**

**8.G.A.5** Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.

**8.G.B.7** Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.

*Also addresses 8.EE.A.2, 8.G.B.6, and 8.G.B.8.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- solve equations with variables on each side
- find squares and square roots
- graph points with rational number coordinates in the coordinate plane.

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
7-1 Angle Relationships and Parallel Lines	8.G.A.5	3	1.5
7-2 Angle Relationships and Triangles	8.G.A.5	2	1
Put It All Together 1: Lessons 7-1 and 7-2		0.5	0.25
7-3 The Pythagorean Theorem	8.G.B.6, 8.G.B.7, <i>Also addresses 8.EE.A.2</i>	3	1.5
7-4 Converse of the Pythagorean Theorem	8.G.B.6	2	1
7-5 Distance on the Coordinate Plane	8.G.B.8	2	1
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>15.5</b>	<b>7.75</b>

## Coherence

### Vertical Alignment

#### Previous

Students used facts about supplementary, complementary, vertical, and adjacent angles to solve multi-step problems.

**7.G.B.5**

#### Now

Students examine angle relationships with triangles and parallel lines and use the Pythagorean Theorem.

**8.G.A.5, 8.G.B.6, 8.G.B.7, 8.G.B.8**

#### Next

Students will analyze translations, rotations, reflections, and dilations.

**8.G.A.1, 8.G.A.3**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of angles and triangles to develop understanding of special angle pairs and the Pythagorean Theorem. They use this understanding to build fluency with finding missing angle measures and side lengths of right triangles. They apply their fluency to solve multi-step, real-world problems.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

### Module Goal

Analyze translations, rotations, reflections, and dilations.

### Focus

**Domain:** Geometry

**Major Cluster(s):**

**8.G.A** Understand congruence and similarity using physical models, transparencies, or geometry software.

**Standards for Mathematical Content:**

**8.G.A.3** Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

*Also addresses 8.G.A.1.*

### Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- graph points with rational number coordinates in the coordinate plane
- use a protractor to find the measure of an angle

Use the **Module Pretest** to diagnose students' readiness for this module. You may wish to spend more time on the **Warm Up** for each lesson to fully review these concepts.

### Coherence

#### Vertical Alignment

##### Previous

Students examined angle relationships with triangles and parallel lines and used the Pythagorean Theorem.

**8.G.A.5, 8.G.B.7**

##### Now

Students analyze translations, rotations, reflections, and dilations.

**8.G.A.1, 8.G.A.1A, 8.G.A.3**

##### Next

Students will analyze and use similar and congruent figures using transformations.

**8.G.A.1, 8.G.A.1A, 8.G.A.1B, 8.G.A.1C, 8.G.A.2, 8.G.A.4, 8.G.A.5**

### Rigor

#### The Three Pillars of Rigor

In this module, students draw on their knowledge of graphing in the coordinate plane to develop *understanding* of transformations. They use their understanding to build *fluency* with graphing and describing translations, reflections, rotations, and dilations using coordinates.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

### Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
8-1 Translations	8.G.A.1, 8.G.A.1A, 8.G.A.3	3	1.5
8-2 Reflections	8.G.A.1, 8.G.A.1A, 8.G.A.3	2	1
Put It All Together 1: Lessons 8-1 and 8-2		0.5	0.25
8-3 Rotations	8.G.A.1, 8.G.A.1A, 8.G.A.3	3	1.5
8-4 Dilations	8.G.A.3	3	1.5
Put It All Together 2: Lessons 8-1 through 8-4		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>15</b>	<b>7.5</b>

# Congruence and Similarity

## Module Goal

Analyze and use similar and congruent figures using transformations.

## Focus

**Domain:** Geometry

**Major Cluster(s):**

**8.G.A** Understand congruence and similarity using physical models, transparencies, or geometry software.

**Standards for Mathematical Content:**

**8.G.A.2** Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.

**8.G.A.4** Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar figures, describe a sequence that exhibits the similarity between them.

*Also addresses 8.G.A.1, 8.G.A.1.A, 8.G.A.1.B, 8.G.A.1.C, and 8.G.A.5.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- transform figures in the coordinate plane using translations, reflections, rotations, and dilations

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
9-1 Congruence and Transformations	8.G.A.1, 8.G.A.1.A, 8.G.A.1.B, 8.G.A.1.C, 8.G.A.2	2	1
9-2 Congruence and Corresponding Parts	8.G.A.1, 8.G.A.1.A, 8.G.A.1.B	2	1
Put It All Together 1: Lessons 9-1 and 9-2		0.5	0.25
9-3 Similarity and Transformations	8.G.A.4	2	1
9-4 Similarity and Corresponding Parts	8.G.A.4, 8.G.A.5	3	1.5
9-5 Indirect Measurement	8.G.A.4, 8.G.A.5	2	1
Put It All Together 2: Lessons 9-3, 9-4, and 9-5		0.5	0.25
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>15</b>	<b>7.5</b>

## Coherence

### Vertical Alignment

#### Previous

Students analyzed translations, rotations, reflections, and dilations using coordinate notation.

**8.G.A.1, 8.G.A.3**

#### Now

Students analyze and use similar and congruent figures using transformations.

**8.G.A.1, 8.G.A.1.A, 8.G.A.1.B, 8.G.A.1.C, 8.G.A.2, 8.G.A.4, 8.G.A.5**

#### Next

Students will understand congruence in terms of rigid motions, and prove theorems about similarity.

**HSG.CO.B.6, HSG.CO.B.7, HSG.CO.B.8, HSG.SRT.B.4, HSG.SRT.B.5**

## Rigor

### The Three Pillars of Rigor

In this module, students draw on their knowledge of transformations to develop *understanding* that two figures are congruent or similar if the second figure can be obtained from the first by a series of transformations. They use their understanding to build *fluency* with naming corresponding parts of congruent and similar figures. They apply their fluency to solve real-world indirect measurement problems.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

### Module Goal

Find and use the volumes of cylinders, cones, spheres, and composite figures.

### Focus

**Domain:** Geometry

**Additional Cluster(s):**

**8.G.C** Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

**Standards for Mathematical Content:**

**8.G.C.9** Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7

### Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- solve one-step and two-step equations
- work with powers and exponents
- find the volume of prisms

Use the Module Pretest to diagnose students' readiness for this module. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

### Coherence

#### Vertical Alignment

##### Previous

Students solved problems involving the volume of prisms and pyramids.

**7.G.B.6**

##### Now

Students find and use the volumes of cylinders, cones, spheres, and composite figures.

**8.G.C.9**

##### Next

Students will explain volume formulas and use them to solve problems.

**HSG.GMD.A.1, HSG.GMD.A.2, HSG.GMD.A.3**

### Rigor

#### The Three Pillars of Rigor

In this module, students will draw on their knowledge of finding volume of prisms to develop *understanding* of how to find the volume of cylinders, cones, and spheres. They use this understanding to build *fluency* with finding missing dimensions and finding volume of composite figures. They apply their fluency to solve real-world volume problems.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

### Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
10-1 Volume of Cylinders	8.G.C.9	3	1.5
10-2 Volume of Cones	8.G.C.9	3	1.5
10-3 Volume of Spheres	8.G.C.9	2	1
Put it All Together: Lessons 10-1, 10-2, and 10-3		0.5	0.25
10-4 Find Missing Dimensions	8.G.C.9, Also addresses 8.EE.A.2	2	1
10-5 Volume of Composite Solids	8.G.C.9	2	1
Module Review		1	0.5
Module Assessment		1	0.5
Total Days		15.5	7.75

## Scatter Plots and Two-Way Tables

## Module Goal

Create scatter plots and two-way tables and use lines of fit and relative frequencies to identify and use associations.

## Focus

**Domain:** Statistics and Probability

**Supporting Cluster(s):**

**8.SP.A** Investigate patterns of association in bivariate data.

**Standards for Mathematical Content:**

**8.SP.A.1** Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, and nonlinear association.

**8.SP.A.4** Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables.

*Also addresses 8.F.B.4, 8.SP.A.2, 8.SP.A.3.*

**Standards for Mathematical Practice:** MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

## Be Sure to Cover

Students need to have a thorough understanding of the prerequisite skills required for this module.

- graph and write equations of lines
- find relative frequencies

Use the Module Pretest to diagnose readiness. You may wish to spend more time on the Warm Up for each lesson to fully review these concepts.

## Suggested Pacing

Lesson	Standard(s)	45-min classes	90-min classes	
Module Pretest and Launch the Module Video				
		1	0.5	
11-1	Scatter Plots	8.SP.A.1	3	1.5
11-2	Draw Lines of Fit	8.SP.A.2	2	1
11-3	Equations for Lines of Fit	8.SP.A.3, <i>Also addresses 8.F.B.4</i>	2	1
Put It All Together 1: Lessons 11-1, 11-2, and 11-3			0.5	0.25
11-4	Two-Way Tables	8.SP.A.4	1	0.5
11-5	Associations in Two-Way Tables	8.SP.A.4	3	1.5
Put It All Together 2: Lessons 11-4 and 11-5			0.5	0.25
Module Review			1	0.5
Module Assessment			1	0.5
Total Days			15	7.5

## Coherence

## Vertical Alignment

## Previous

Students analyzed samples, made predictions, and compared populations.  
**7.SP.A.1, 7.SP.A.2, 7.SP.B.3, 7.SP.B.4**

## Now

Students create scatter plots and two-way tables and use lines of fit and relative frequencies to identify and use associations.  
**8.SP.A.1, 8.SP.A.2, 8.SP.A.3, 8.SP.A.4**

## Next

Students will summarize, represent, and interpret data on two categorical and quantitative variables.  
**HSS.ID.B.5, HSS.ID.B.6**

## Rigor

## The Three Pillars of Rigor

In this module, students draw on their knowledge of linear functions and relative frequency to develop understanding of scatter plots and two-way tables. They use their understanding to build fluency with constructing and interpreting scatter plots and two-way tables. They apply their understanding to solve real-world problems that involve lines of fit and associations in two-way tables.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE &amp; PRACTICE

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b>  Let's Sort Explore different ways to sort objects								
1-1	Math Is Mine	Students explore their identities as doers of math.	Students express their identity as a doer of math by discussing math in daily life using present tense statements.	1-1	Math Terms hobby story strengths	Academic Terms future positive	• picture books and magazines on a variety of non-fiction subjects related to daily life and our world	Conceptual Understanding K.CC.B.4.b K.CC.B.5
1-2	Math Is Exploring and Thinking	Students explore what a problem is.	Students express and describe objects around them by using <i>there is/there are</i> .	1-2	problem	describe	• crayons or other drawing materials	Conceptual Understanding K.CC.B.4
1-3	Math Is In Our World	Students explore ways to show real-world problems with mathematics.	Students use adjectives to describe shapes they see in real-world situations.	1-3	circle rectangle shape square triangle	describe	• Shape Cards Teaching Resource	Conceptual Understanding K.G.A.1
1-4	Math Is Explaining and Sharing	Students explore ways to explain their thinking.	Students explain their thinking and respond to classmates by using the verb <i>think</i> .	1-4	cube cylinder diamond triangle	explain	• Shape Cards Teaching Resource	Conceptual Understanding K.G.A.1
1-5	Math Is Finding Patterns	Students explore patterns.	Students use descriptive adjectives (colors, shapes) to describe a pattern.	1-5	pattern	describe explain	• pattern blocks: squares, blue rhombuses, and triangles	Conceptual Understanding K.G.A.1
1-6	Math Is Ours	Students think about the behaviors and mindsets that contribute to a productive learning environment.	Students use the present tense ( <i>we count... we look at...</i> ) to discuss the skills, behaviors, and mindsets that contribute to a productive learning environment.	1-6	pattern problem	describe explain	• attribute blocks • blank paper • pattern blocks	Conceptual Understanding K.CCA.1
<b>Unit Review</b>								
<b>Fluency Practice</b>								

PACING: 15 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Unit 2 Tall Towers</i> : Informally use the concepts of one-to-one correspondence, counting, and more/less									
2-1	Count 1, 2, and 3	Students understand the relationship between numbers and quantities when using objects and illustrations to count 1, 2, and 3.	Students articulate the relationship between numbers and objects in a group of 3 by counting to 3.	2-1	Math Terms one (1) two (2) three (3)	Academic Terms count explain • bags • connecting cubes • counters	• signs showing cubes	Conceptual Understanding	K.CC.B.4a
2-2	Represent 1, 2, and 3	Students count groups of objects to 3, regardless of their arrangement, and recognize the numerals 1, 2, and 3.	Students articulate numerals 1, 2, and 3 by matching them to sets of 1, 2, and 3 objects.	2-2	one (1) two (2) three (3)	model order • connecting cubes • counters • spinner		Conceptual Understanding, Procedural Skill	K.CC.B.4b
2-3	Count 4 and 5	Students understand the relationship between numbers and quantities when using objects and illustrations to count 4 and 5.	Students articulate the relationship between numbers and objects in a group of 5 by counting to 5.	2-3	four (4) five (5)	count explain • counters • signs showing cubes		Conceptual Understanding	K.CC.B.4a
2-4	Represent 4 and 5	Students count groups of objects to 5, regardless of their arrangement, and recognize the numerals 4 and 5.	Students articulate numerals 4 and 5 by matching them to sets of 4 and 5 objects.	2-4	four (4) five (5)	model order • bags • connecting cubes • counters	• Number Cards 0–10 Teaching Resource	Conceptual Understanding, Procedural Skill	K.CC.B.4b
2-5	Represent 0	Students identify zero as a group with no objects and recognize the numeral 0.	Students articulate the numeral 0 by matching it to a group with no objects.	2-5	zero (0)	example explain • baskets • connecting cubes • counters	• Dot Cards 1–5 Teaching Resource	Conceptual Understanding, Procedural Skill	K.CC.A.3
2-6	Numbers to 5	Students identify numbers from 1 to 5 in sequence understanding that each successive number name is referring to an amount that is one larger.	Students identify the next successive number to 5 when counting by stating the number.	2-6	one more	explain represent • connecting cubes • counters	• Number Cards 0–10 Teaching Resource	Conceptual Understanding, Procedural Skill	K.CC.B.4
2-7	Equal Groups to 5	Students use one-to-one correspondence to determine whether groups are equal to each other.	Students justify that two groups are equal by using one-to-one matching correspondence.	2-7	equal equal group matching	compare relate • connecting cubes		Conceptual Understanding	K.CC.C.6
2-8	Greater Than and Less Than	Students use one-to-one correspondence to determine whether one group is greater than or less than the other group.	Students explain which group is greater than or less than by using one-to-one correspondence.	2-8	fewer greater than less than more	compare describe • classroom objects placed in bags • counters		Conceptual Understanding	K.CC.C.6
2-9	Compare Numbers to 5	Students use counting to compare two groups.	Students compare groups by expressing greater than, less than, or equal to.	2-9	greater than less than	compare relate • connecting cubes • counters	• Dot Cards 1–5 Teaching Resource	Conceptual Understanding	K.CC.C.6

**Math Probe** *Who Has More Stickers?* Gather data on students' understandings of counting items comparing totals

- Unit Review
- Fluency Practice
- Performance Task
- Unit Assessment

PACING: 18 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>How Many Can You Find?</i> Explore counting groups of objects up to 10								
3-1	Count 6 and 7	Understand the relationship between numbers and quantities when using objects and illustrations to count 6 and 7.	Express the relationship between numbers and quantities to count to 6 and 7 using comparative words.	3-1	Math Terms six seven	Academic Terms count explain	• connecting cubes • counters	Conceptual Understanding K.CC.B.4.a
3-2	Represent 6 and 7	Count groups of objects to 7, regardless of their arrangement, and recognize the numerals 6 and 7.	Express the number of objects to 7, regardless of their arrangement, using the correct subject/verb agreement.	3-2	six seven	model order	• bags • connecting cubes • counters • numeral cards (6–10)	Conceptual Understanding K.CC.B.4.b
3-3	Count 8 and 9	Understand the relationship between numbers and quantities when using objects and illustrations to count 8 and 9.	Express the relationship between numbers and quantities to count to 8 and 9 using comparative words.	3-3	eight nine	count explain	• connecting cubes	Conceptual Understanding K.CC.B.4.a
3-4	Represent 8 and 9	Count groups of objects to 9, regardless of their arrangement, and recognize the numerals 8 and 9.	Express the number of objects to 9, regardless of their arrangement, using the structure <i>there is/there are</i> .	3-4	eight nine	model order	• connecting cubes • small classroom objects	Conceptual Understanding K.CC.B.4.b
3-5	Count 10	Understand the relationship between numbers and quantities when using objects and illustrations to count 10.	Express the relationship between numbers and quantities to count to 10 using comparative words.	3-5	ten	count explain	• counters • <i>Dot Cards 1–10 Teaching Resource</i>	Conceptual Understanding K.CC.B.4.a
3-6	Represent 10	Count groups of objects to 10, regardless of their arrangement, and recognize the numeral 10.	Express the number of objects to 10, regardless of their arrangement, using the correct subject/verb agreement.	3-6	ten	model order	• connecting cubes • counters • <i>Number Cards 6–10 Teaching Resource</i>	Conceptual Understanding K.CC.B.4.b
3-7	Numbers to 10	Identify numbers from 1 to 10 in sequence understanding that each successive number name is referring to an amount that is one larger.	Express numbers from 1–10 in sequence and respond to questions about successive numbers using the future tense phrase, <i>there will be</i> .	3-7	one more	explain represent	• connecting cubes • counters • <i>Number Cards 0–10 Teaching Resource</i> • <i>One More Teaching Resource</i>	Conceptual Understanding K.CC.B.4.c
3-8	Compare Objects in Groups	Use one-to-one correspondence and counting to compare two groups.	Compare two groups using <i>equal to</i> , <i>less than</i> , <i>fewer than</i> , and <i>more than</i> .	3-8	equal, fewer, more	compare describe	• bags • connecting cubes • <i>Number Cards 0–10 Teaching Resource</i>	Conceptual Understanding K.CC.C.6
3-9	Compare Numbers	Use counting to compare two numbers.	Compare two numbers using <i>equal to</i> , <i>less than</i> , or <i>greater than</i> .	3-9	equal groups, greater than, less than	compare explain	• connecting cubes • <i>Number Cards 0–10 Teaching Resource</i>	Conceptual Understanding K.CC.C.7
<b>Math Probe</b> <i>Compare Numbers</i> Gather data on students' understanding of comparing two 1-digit numbers								
3-10	Write Numbers to 3	Write the numerals to 3 and represent a number of objects with a written numeral.	Respond to prepositional phrases such as <i>at the top</i> , <i>over</i> , <i>around</i> , <i>across</i> , <i>down</i> to write numerals zero to three.	3-10	zero, one, two, three	place understand	• classroom objects • containers • counters • finger paint • tactile materials	Conceptual Understanding, Procedural Skill K.CC.A.3
3-11	Write Numbers to 6	Write the numerals to 6 and represent a number of objects with a written numeral.	Respond to commands such as <i>start at the top</i> , <i>go down</i> , <i>move across</i> , <i>curve</i> , and <i>close</i> to write numerals four to six.	3-11	four, five, six	careful point	• classroom objects • counters • tactile materials	Conceptual Understanding, Procedural Skill K.CC.A.3
3-12	Write Numbers to 10	Write the numerals to 10 and represent a number of objects with a written numeral.	Write numerals 7 to 10 by responding to prepositional phrases such as <i>at the top</i> , <i>over</i> , <i>around</i> , <i>across</i> , and <i>down</i> .	3-12	seven, eight, nine, ten	place point	• boxes • counters • small classroom objects • tactile materials	Conceptual Understanding, Procedural Skill K.CC.A.3

Unit Review

Fluency Practice

Unit Assessment

Performance Task

**PACING: 8 days**

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b>  <i>Filling the Cupboard</i> Students explore different ways everyday objects can be classified and sorted.										
4-1	<i>Alike and Different</i>	Students describe similarities and differences in the attributes of a given set of objects.	Students describe similarities and differences of objects using the words <i>alike</i> and <i>different</i> .	Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.	4-1	<b>Math Terms</b> alike different  <b>Academic Terms</b> compare describe	<ul style="list-style-type: none"> <li>• attribute blocks</li> <li>• connecting cubes</li> <li>• containers</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	K.MD.B.3	
4-2	<i>Sort Objects into Groups</i>	Students sort objects into groups by attribute.	Students identify which objects go into groups according to the attribute using adjectives that relate to size, color, and shape.	Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.	4-2	alike different sort	group similar	<ul style="list-style-type: none"> <li>• <i>2-Part Sorting Mat Teaching Resource</i></li> <li>• attribute blocks</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	K.MD.B.3
4-3	<i>Count Objects in Groups</i>	Students determine the number of objects in sorted groups.	Students identify the number of objects in sorted groups by counting.	Students discuss the value of hearing different viewpoints and approaches to problem solving.	4-3	sort	count explain	<ul style="list-style-type: none"> <li>• connecting cubes in 5 different colors</li> <li>• two kinds of manipulatives with similar colors</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	K.MD.B.3
<b>Math Probe</b> <i>Sort by Count</i> Students sort groups of objects by the number of items.										
4-4	<i>Describe Groups of Objects</i>	Students describe sorted groups based on the attributes and the number of objects in the groups.	Students describe sorted groups based on attributes and number by describing shape, size, color and number.	Students use prior knowledge and new understanding of mathematical concepts to complete a task, building stronger self-efficacy.	4-4	fewer more shape size sort	count explain	<ul style="list-style-type: none"> <li>• <i>3-Part Sorting Mat Teaching Resource</i></li> <li>• manipulative with similar colors to pattern blocks</li> <li>• pattern blocks</li> </ul>	Conceptual Understanding, Procedural Skill & Fluency	K.MD.B.3
<b>Unit Review</b>										
<b>Fluency Practice</b>										
<b>Unit Assessment</b>										
<b>Performance Task</b>										

PACING: 9 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>Sort</i> Fitting Shapes into Shapes. Using pattern blocks to fill a larger shape										
5-1	Triangles	Students identify, name, and describe triangles.	Students identify, name, and describe triangles using precise adjectives and nouns specific to triangles.	Students recognize personal strengths through thoughtful self-reflection.	5-1	<b>Math Terms</b> side triangle vertex/vertices (corner)	<b>Academic Terms</b> describe explain	• objects shaped like triangles	Conceptual Understanding, Procedural Skill & Fluency	K.G.A.2
<b>Math Probe</b> <i>Triangles</i> Determine if a given shape is a triangle										
5-2	Squares and Rectangles	Students identify, name, and describe squares and rectangles.	Students identify, name, and describe rectangles and squares using precise adjectives and nouns specific to these shapes.	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	5-2	rectangle square	example point	• objects shaped like squares and rectangles	Conceptual Understanding, Procedural Skill & Fluency	K.G.A.2
5-3	Hexagons	Students identify, name, and describe hexagons.	Students identify, name, and describe hexagons using precise adjectives and nouns specific to hexagons.	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	5-3	hexagon	because describe	• attribute blocks	Conceptual Understanding, Procedural Skill & Fluency	K.G.A.2
5-4	Circles	Students identify, name, and describe circles.	Students identify, name, and describe circles using precise adjectives and nouns specific to circles.	Students recognize and work to understand the emotions of others and practice empathetic responses.	5-4	circle	explain property	• attribute blocks	Conceptual Understanding, Procedural Skill & Fluency	K.G.A.2
5-5	Position of 2-Dimensional Shapes	Students describe objects using the names of shapes and their relative position.	Students describe objects using the names of shapes using prepositions of location.	Students determine the strategies and analyses necessary to make informed decisions when engaging in mathematical practices.	5-5	above behind below beside in front of next to	agree with place	• blank paper • cut-outs of various shapes	Conceptual Understanding, Application	K.G.A.1
<b>Unit Review</b>										
<b>Fluency Practice</b>										
<b>Unit Assessment</b>										
<b>Performance Task</b>										

## PACING: 9 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD			
<b>Unit Opener</b> <i>with</i> <b>Combining Trains</b> Students use connecting cubes to make estimates and comparisons.											
6-1	Represent and Solve Add To Problems	Students represent addition as adding to a number.	Students represent addition as adding to a number using the verb <i>join</i> in the present progressive tense.	Students exercise creativity by solving a problem using more than one approach.	6-1	<b>Math Terms</b> add in all join sum (total)	<b>Academic Terms</b> count place	• connecting cubes • counters	Conceptual Understanding	K.OA.A.1	
6-2	Represent and Solve More Add To Problems	Students represent addition word problems as adding to a number.	Students represent addition word problems using the term <i>plus</i> and the present tense verb <i>equals</i> .	Students analyze the components of a problem to make informed decisions when engaging in mathematical practices.	6-2	add equal sign (=) equation join plus sign (+) sum (total)	count example	• connecting cubes • counters	• <i>Equation Symbol Cards Teaching Resource</i> • <i>Number Cards 0–10 Teaching Resource</i>	Conceptual Understanding	K.OA.A.2
6-3	Represent and Solve Put Together Problems	Students represent addition as putting two numbers together.	Students represent addition as putting two numbers together by using the phrasal verb <i>put together</i> .	Students discuss and practice positive strategies for managing emotional reactions to stressful situations.	6-3	add equal sign (=) equation plus sign (+) sum (total)	combine count differ/different	• counters	Conceptual Understanding	K.OA.A.1	
6-4	Represent and Solve Addition Problems	Students represent addition word problems as putting two numbers together.	Students identify the equation for word problems by using key verbs and phrasal verbs such as <i>add to</i> and <i>take from</i> correctly.	Students engage in respectful discourse with peers about various perspectives for approaching a mathematical challenge.	6-4	equal sign (=) plus sign (+) sum (total)	place	• counters • <i>Equation Symbol Cards Teaching Resource</i>	• <i>Number Cards 0–10 Teaching Resource</i> • number cube	Procedural Skill & Fluency, Application	K.OA.A.2
<b>Math Probe Addition Stories</b> Gather data on students' understanding of addition											
6-5	Represent and Solve More Addition Problems	Students solve <i>add to</i> and <i>put together</i> addition problems.	Students solve "add to" and "put together" addition problems by using the preposition <i>plus</i> and the verb <i>equal</i> .	Students collaborate with peers and contribute to the group effort to achieve a collective mathematical goal.	6-5	equal sign (=) plus sign (+) sum (total)	compare different similar	• counters • number cube	Conceptual Understanding	K.OA.A.1	
<b>Unit Review</b> <b>Fluency Practice</b>											
<b>Unit Assessment</b> <b>Performance Task</b>											

PACING: 9 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b>  Shorter Trains Use subtraction to remove cars from a cube train.										
7-1	Represent Take Apart Problems	Students represent take apart problems.	Students represent take apart problems using the phrasal verb <i>take apart</i> in the present continuous tense ( <i>taking apart</i> ).	Students break down a complex problem into manageable parts in order to solve.	7-1	Math Terms difference subtract	Academic Terms count different	<ul style="list-style-type: none"> <li>counters</li> <li>cups</li> </ul>	Conceptual Understanding	K.O.A.A.1
7-2	Represent and Solve Take From Problems	Students represent and solve take from problems.	Students represent and solve "take from" subtraction word problems using <i>take from</i> in the present continuous ( <i>taking from</i> ).	Students demonstrate self-awareness of personal strengths and areas of challenge in mathematics.	7-2	difference minus subtract	count different explain	<ul style="list-style-type: none"> <li>counters</li> </ul>	Application	K.O.A.A.1
7-3	Represent and Solve More Take From Problems	Students represent subtraction word problems by taking from a number.	Students represent subtraction word problems by taking from a number using <i>minus</i> and the verb <i>equal</i> .	Students collaborate with peers to complete a mathematical task.	7-3	difference equation minus minus sign subtract	count explain	<ul style="list-style-type: none"> <li><i>Equation Symbol Cards Teaching Resource</i></li> <li><i>Number Cards 0–10 Teaching Resource</i></li> <li>number cubes</li> <li>small toys</li> </ul>	Conceptual Understanding	K.O.A.A.2
7-4	Represent and Solve Subtraction Problems	Students represent and solve subtraction problems.	Students represent and solve subtraction problems using <i>can</i> .	Students practice behavioral flexibility while working with peers to complete a challenging mathematical task.	7-4	difference equation minus subtract	reasoning solve	<ul style="list-style-type: none"> <li>counters</li> <li>crayons</li> <li>number cubes 0–5</li> </ul>	Application	K.O.A.A.1 K.O.A.A.2
7-5	Represent and Solve Addition and Subtraction Problems	Students solve take from and put together/take apart problems.	Students explain how to solve take from and put together/take apart problems using <i>solved</i> .	Students identify the information that is needed or most useful in order to complete a mathematical task.	7-5	add equation subtract	pattern understand	<ul style="list-style-type: none"> <li><i>Equation Symbol Cards Teaching Resource</i></li> <li><i>Number Cards 0–10 Teaching Resource</i></li> </ul>	Application	K.O.A.A.1 K.O.A.A.2
<b>Math Probe Representing Addition and Subtraction</b> Use materials to model addition and subtraction problems.										
<b>Unit Review</b>										
<b>Fluency Practice</b>										
<b>Unit Assessment</b>										
<b>Performance Task</b>										

PACING: 14 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD			
<b>Unit Opener</b> How Many Are Covered? Students compose and decompose numbers to identify a "mystery" number.											
<b>8-1</b>	Add within 5	Students solve addition equations within 5.	Students articulate solving addition equations within 5 by using the verbs <i>plus</i> and <i>equals</i> .	Students identify a problem, use creativity to execute problem-solving steps, and identify multiple solutions.	<b>8-1</b>	<b>Math Terms</b> add count on number path sum (total)	<b>Academic Terms</b> explain model	<ul style="list-style-type: none"> <li>cards with addition problems</li> <li><i>Number Path</i> Teaching Resource</li> </ul>	Conceptual Understanding	K.OA.A.5	
<b>8-2</b>	Subtract within 5	Students solve subtraction equations within 5.	Students articulate solving subtraction equations within 5 by using the verbs <i>minus</i> and <i>equals</i> .	Students set a focused mathematical goal and make a plan for achieving that goal.	<b>8-2</b>	count back difference number path subtract	explain solve	<ul style="list-style-type: none"> <li>cards with subtraction problems</li> <li><i>Number Path</i> Teaching Resource</li> </ul>	Conceptual Understanding	K.OA.A.5	
<b>8-3</b>	Ways to Make 6 and 7	Students compose 6 and 7 in different ways.	Students articulate different ways to make 6 and 7 by listing the combinations using <i>might</i> .	Students identify and discuss the emotions experienced during math learning.	<b>8-3</b>	equation make (compose)	combine pattern	<ul style="list-style-type: none"> <li>counters</li> <li><i>Ten-Frame</i> Teaching Resource</li> </ul>	Conceptual Understanding	K.OA.A.1	
<b>8-4</b>	Ways to Decompose 6 and 7	Students decompose 6 and 7 in different ways.	Students articulate different ways to decompose 6 and 7 by listing the combinations using <i>can</i> and <i>could</i> .	Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.	<b>8-4</b>	decompose (break apart) equation	different idea	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>index cards</li> <li><i>Number Bond 3</i> Teaching Resource</li> </ul>	Conceptual Understanding	K.OA.A.3	
<b>Math Probe</b> Ways to Make and Decompose 5, 6, and 7 Students circle the number that correctly completes a given equation.											
<b>8-5</b>	Ways to Make 8 and 9	Students compose 8 and 9 in different ways.	Students articulate different ways to make 8 and 9 by listing the combinations using <i>might</i> .	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	<b>8-5</b>	equation make (compose)	combination pattern	<ul style="list-style-type: none"> <li>counters</li> <li><i>Ten-Frame</i> Teaching Resource</li> </ul>	Conceptual Understanding	K.OA.A.1	
<b>8-6</b>	Ways to Decompose 8 and 9	Students decompose 8 and 9 in different ways.	Students articulate different ways to decompose 8 and 9 by listing the combinations using <i>can</i> and <i>could</i> .	Students develop and execute a plan, including selecting tools for mathematical problem solving.	<b>8-6</b>	decompose (break apart) equation	because explain	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>index cards</li> <li><i>Number Bonds 3</i> Teaching Resource</li> </ul>	Conceptual Understanding	K.OA.A.3	
<b>8-7</b>	Ways to Make 10	Students compose 10 in different ways and find different number combinations for 10.	Students articulate different ways to make 10 by listing the combinations using the modal <i>might</i> .	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	<b>8-7</b>	equation make (compose)	agree with symbol	<ul style="list-style-type: none"> <li>counters</li> <li>small objects (e.g., buttons, pencils, cubes)</li> <li>strips of paper</li> </ul>	<ul style="list-style-type: none"> <li><i>Ten-Frame</i> Teaching Resource</li> </ul>	Conceptual Understanding	K.OA.A.4
<b>8-8</b>	Ways to Decompose 10	Students decompose 10 in different ways.	Students articulate different ways to decompose 10 by listing the combinations using <i>can</i> and <i>could</i> .	Students recognize personal strengths and areas for growth through thoughtful self-reflection.	<b>8-8</b>	decompose (break apart) equation	list understand	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>counters</li> </ul>	<ul style="list-style-type: none"> <li>cups</li> <li>index cards</li> </ul>	Conceptual Understanding	K.OA.A.3
<b>Unit Review</b> <b>Fluency Practice</b> <b>Unit Assessment</b> <b>Performance Task</b>											

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD			
<b>Unit Opener</b>  Secret Hops Students decompose numbers by using hops on a number line.											
9-1	Represent 11, 12, and 13	Students represent the numbers 11, 12, and 13 by counting out objects and writing the corresponding number.	Students articulate numerals 11, 12, and 13 by matching them to sets of eleven, twelve, and thirteen objects.	Students exchange ideas for mathematical problem-solving with a peer and provide thoughtful and constructive feedback.	9-1	<b>Math Terms</b> eleven (11) twelve (12) thirteen (13)	<b>Academic Terms</b> count represent	• counters	Conceptual Understanding, Procedural Skill & Fluency	K.CC.A.3	
9-2	Make 11, 12, and 13	Students make 11, 12, and 13 as ten ones and some more ones using concrete objects, drawings, and equations.	Students explain how to make a group of 11, 12, and 13 by adding 1-3 objects to a group of 10 using the expression <i>some more</i> .	Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.	9-2	equation make (compose)	explain match	• counters	• <i>Double Ten-Frames Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	K.NBT.A.1
9-3	Decompose 11, 12, and 13	Students decompose 11, 12, and 13 as ten ones and some more ones using concrete objects, drawings, and equations.	Students decompose groups of 11-13 by explaining how to separate out a group of ten and the extra ones using <i>break apart</i> .	Students identify a problem, use creativity to execute problem-solving steps, and identify multiple solutions.	9-3	decompose (break apart) equation	example explain	• connecting cubes	• <i>Number Bond 3 Teaching Resource</i> • small objects	Conceptual Understanding, Procedural Skill & Fluency	K.NBT.A.1
9-4	Represent 14 and 15	Students represent the numbers 14 and 15 by counting out objects and writing the corresponding number.	Students articulate numerals 14 and 15 by matching them to sets of fourteen and fifteen objects.	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	9-4	fourteen (14) fifteen (15)	count represent	• counters		Conceptual Understanding, Procedural Skill & Fluency	K.CC.A.3
<b>Math Probe</b> Counting Counters Students connect the number of counters with a written numeral.											
9-5	Make 14 and 15	Students make 14 and 15 as ten ones and some more ones using concrete objects, drawings, and equations.	Students explain how to make a group of 14 and 15 by adding 4-5 objects to a group of 10 using the expression <i>some more</i> .	Students demonstrate self-awareness of personal strengths and areas of challenge in mathematics.	9-5	equation make (compose)	describe helpful	• counters	• <i>Double Ten-Frames Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	K.NBT.A.1
9-6	Decompose 14 and 15	Students decompose 14 and 15 as ten ones and some more ones using concrete objects, drawings, and equations.	Students explain how to decompose groups of 14-15 into a group of ten and extra ones using <i>break apart</i> .	Students discuss the value of hearing different viewpoints and approaches to problem solving.	9-6	decompose (break apart) equation	check explain	• connecting cubes • cups	• <i>Number Bond 3 Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	K.NBT.A.1
<b>Unit Review</b>											
<b>Fluency Practice</b>											
<b>Unit Assessment</b>											
<b>Performance Task</b>											

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Cross Out the Numbers</i> Students decompose numbers through 19 by playing a card game.									
<b>10-1</b> Represent 16 and 17	Students represent the numbers 16 and 17 by counting out objects and writing the corresponding number.	Students match verbally and in writing the numerals 16 and 17 to sets of sixteen and seventeen objects.	Students discuss the value of hearing different viewpoints and approaches to problem solving.	<b>10-1</b>	<b>Math Terms</b> sixteen (16) seventeen (17)	<b>Academic Terms</b> count tool	• connecting cubes • counters	Conceptual Understanding, Procedural Skill & Fluency	K.CC.A.3
<b>Math Probe</b> <i>How Many Counters?</i> Students determine how many counters in a group of counters.									
<b>10-2</b> Make 16 and 17	Students make 16 and 17 as ten ones and some more ones using concrete objects, drawings and equations.	Students explain how to make a group of 16 and 17 by adding 6–7 objects to a group of 10 using the expression <i>some more</i> .	Students identify personal traits that make them good students, peers, and learners.	<b>10-2</b>	equation make (compose)	agree with explain	• counters • crayons or markers • <i>Double Ten-Frames Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	K.NBT.A.1
<b>10-3</b> Decompose 16 and 17	Students decompose 16 and 17 as ten ones and some more ones using concrete objects, drawings and equations.	Students decompose groups of 16–17 by explaining how to separate out a group of ten and the extra ones.	Students employ techniques that can be used to help maintain focus and manage reactions to potentially frustrating situations.	<b>10-3</b>	decompose (break apart) equation	count tool	• connecting cubes • <i>Number Bond 3 Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	K.NBT.A.1
<b>10-4</b> Represent 18 and 19	Students represent the numbers 18 and 19 by counting out objects and writing the corresponding number.	Students will articulate numerals 18 and 19 by matching them to sets of eighteen and nineteen objects.	Students reflect on and describe the logic and reasoning used to make a mathematical decision or conclusion.	<b>10-4</b>	eighteen (18) nineteen (19)	perform thinking	• counters	Conceptual Understanding, Procedural Skill & Fluency	K.CC.A.3
<b>10-5</b> Make 18 and 19	Students make 18 and 19 as ten ones and some more ones using concrete objects, drawings and equations.	Students explain how to make a group of 18 and 19 by adding 8–9 objects to a group of 10 using the expression <i>some more</i> .	Students engage in active listening and work collaboratively with a partner to complete mathematical tasks.	<b>10-5</b>	equation make (compose)	idea similar	• counters • <i>Double Ten-Frames Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	K.NBT.A.1
<b>10-6</b> Decompose 18 and 19	Students decompose 18 and 19 as ten ones and some more ones using concrete objects, drawings and equations.	Students decompose groups of 18–19 by explaining how to separate out a group of ten and the extra ones.	Students recognize personal strengths through thoughtful self-reflection.	<b>10-6</b>	decompose (break apart) equation	clue thinking	• connecting cubes • <i>Number Bond 3 Teaching Resource</i>	Conceptual Understanding, Procedural Skill & Fluency	K.NBT.A.1
<b>Unit Review</b>									
<b>Fluency Practice</b>									
<b>Unit Assessment Performance Task</b>									

PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD	
<b>Unit Opener</b> <i>Which Shape Is Different?</i> Students think about how shapes in a group differ.									
11-1	2-Dimensional and 3-Dimensional Shapes	Students identify shapes as 2-dimensional or 3-dimensional.	Students identify and describe the difference between 2-dimensional and 3-dimensional shapes using adjectives and nouns.	Students break down a situation to identify the problem at hand.	11-1	Math Terms 2-dimensional shape 3-dimensional shape flat shape solid shape	Academic Terms compare sort	• attribute blocks • wooden geometric solids or other 3-dimensional shapes	Conceptual Understanding K.G.A.3
<b>Math Probe</b> <i>Flat Shape or Solid Shape?</i> Students distinguish flat shapes from solids.									
11-2	Cubes	Students identify, name, and describe cubes.	Students identify, name, and describe cubes using precise adjectives and nouns specific to cubes.	Students recognize personal strengths and areas for growth through thoughtful self-reflection.	11-2	cube face vertex	compare different	• cube-shaped classroom objects • wooden geometric cubes	Conceptual Understanding, Procedural Skill & Fluency K.G.A.2
11-3	Spheres	Students identify, name, and describe spheres.	Students identify, name, and describe spheres using precise adjectives and nouns specific to spheres.	Students exchange ideas for mathematical problem-solving with a peer, listening attentively and providing thoughtful and constructive feedback.	11-3	rounded surface sphere	different sort	• classroom objects (including at least one spherical object) • wooden geometric cube, sphere, cone, and cylinder	Conceptual Understanding, Procedural Skill & Fluency K.G.A.2
11-4	Cylinders	Students identify, name, and describe cylinders.	Students identify, name, and describe cylinders using precise adjectives and nouns specific to cylinders.	Students set a focused mathematical goal and make a plan for achieving that goal.	11-4	base cylinder	differ/different sort	• objects representing different geometric shapes	Conceptual Understanding, Procedural Skill & Fluency K.G.A.2
11-5	Cones	Students identify, name, and describe cones.	Students identify, name, and describe cones using precise adjectives and nouns specific to cones.	Students recognize and work to understand the emotions of others and practice empathetic responses.	11-5	apex base cone	compare similar	• objects shaped like cones • wooden geometric cube, sphere, cone, and cylinder	Conceptual Understanding, Procedural Skill & Fluency K.G.A.2
11-6	Describe Solids	Students describe objects using the names of shapes and their relative position.	Students use prepositional phrases such as <i>next to</i> , <i>above</i> , and <i>between</i> to describe the relative position of shapes.	Students collaborate with peers and contribute to group effort to achieve a collective mathematical goal.	11-6	above behind below beside in front of next to	agree with explain	• connecting cubes • wooden geometric cube, sphere, cone, and cylinder	Conceptual Understanding, Application K.G.A.1
<b>Unit Review</b> <b>Fluency Practice</b>									
<b>Unit Assessment</b> <b>Performance Task</b>									

PACING: 9 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD		
<b>Unit Opener</b> <i>Counting</i> Patterns in a Number Chart Students shade numbers in a number chart to reveal patterns.										
<b>12-1</b>	Count by 1s to 50	Students count by 1s to 50.	Students count by 1s to 50 using the correct pronunciation of each numeral.	Students discuss how a rule or routine can help develop mathematical skills and knowledge and be responsible contributors.	<b>12-1</b>	<b>Meth Terms</b> count <b>Academic Terms</b> pattern	<ul style="list-style-type: none"> <li>counters</li> <li>Number Chart 1–50 Teaching Resource</li> </ul>	<ul style="list-style-type: none"> <li>stampers</li> </ul>	Procedural Skill & Fluency	K.CC.A.1
<b>12-2</b>	Count by 1s to 100	Students count by 1s to 100.	Students count by 1s to 100 using the correct pronunciation of each numeral.	Students actively listen without interruption as peers describe how they approached a complex mathematical task.	<b>12-2</b>	count after before	<ul style="list-style-type: none"> <li>crayons</li> <li>dry erase markers</li> </ul>	<ul style="list-style-type: none"> <li>Number Chart 1–100 Teaching Resource</li> <li>plastic page protectors</li> </ul>	Procedural Skill & Fluency	K.CC.A.1 K.CC.A.2
<b>Math Probe</b> <i>Counting</i> What Number Comes After? Students choose the number on a list that comes after a given number.										
<b>12-3</b>	Count by 10s to 100	Students count by 10s to 100.	Students count by 10s to 100 using the correct pronunciation of each numeral.	Students practice strategies for persisting at a mathematical task, such as setting a small goal or setting timers for remaining focused.	<b>12-3</b>	count model similar	<ul style="list-style-type: none"> <li>highlighter markers</li> <li>Number Chart 1–100 Teaching Resource</li> </ul>	<ul style="list-style-type: none"> <li>small objects (e.g., buttons, counters, or coins)</li> <li>zip-top bags</li> </ul>	Procedural Skill & Fluency	K.CC.A.1
<b>12-4</b>	Count from Any Number to 100	Students count forward from any number to 100.	Students count by 1s to 100 starting at any number using the correct pronunciation of each numeral.	Students identify and discuss the emotions experienced during math learning.	<b>12-4</b>	count explain model	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>counters</li> <li>index cards</li> </ul>	<ul style="list-style-type: none"> <li>Number Chart 1–100 Teaching Resource</li> </ul>	Procedural Skill & Fluency	K.CC.A.2
<b>12-5</b>	Count to Find Out How Many	Students count up to 20 objects, regardless of arrangement or the order in which they were counted.	Students count up to 20 objects, regardless of arrangement or order, using the correct pronunciation of each numeral.	Students explore taking different perspectives on approaches to problem solving.	<b>12-5</b>	count twenty (20) sort	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>counters</li> </ul>	<ul style="list-style-type: none"> <li>Double Ten-Frames Teaching Resource</li> <li>Number Chart 1–100 Teaching Resource</li> </ul>	Conceptual Understanding	K.CC.B.5
<b>Unit Review</b> <b>Fluency Practice</b>										
<b>Unit Assessment</b> <b>Performance Task</b>										

## PACING: 10 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD
<b>Unit Opener</b> <i>Learn More</i> <a href="#">More Shapes Into Shapes</a> Students continue to explore the sizes and shapes of pattern blocks.								
13-1	Compare and Contrast 2-Dimensional Shapes	Students compare and contrast 2-dimensional shapes based on defining attributes.	Students use adjectives and nouns to compare 2-dimensional shapes.	13-1	<b>Math Terms</b> 2-dimensional shape flat shape side vertex (corner)	<b>Academic Terms</b> compare sort	• attribute blocks • index cards	Conceptual Understanding K.G.B.4
<b>Math Probe</b> <i>Which Shape Does Not Belong?</i> Students determine which shape in a group does not belong.								
13-2	Build and Draw 2-Dimensional Shapes	Students draw 2-dimensional shapes.	Students use commands to draw 2-dimensional shapes.	13-2	2-dimensional shape flat shape side vertex (corner)	matches same	• drawing tools • spinner	Conceptual Understanding K.G.B.5
13-3	Compose 2-Dimensional Shapes	Students use flat shapes to form larger shapes.	Students use the phrasal verb <i>put together</i> and the verb <i>join</i> to explain how to form larger shapes out of smaller shapes.	13-3	2-dimensional shape flat shape	combine compare	• attribute blocks • bag • number cubes 1–6	Conceptual Understanding K.G.B.6
13-4	Compare and Contrast 3-Dimensional Shapes	Students compare and contrast 3-dimensional shapes based on defining attributes.	Students use adjectives to describe 2-dimensional and 3-dimensional shapes.	13-4	3-dimensional shape apex base face solid shape vertex	compare sort	• real-world objects shaped like geometric solids • wooden geometric solids	Conceptual Understanding K.G.B.4
13-5	Build 3-Dimensional Shapes	Students build 3-dimensional shapes.	Students use commands to build 3-dimensional shapes.	13-5	3-dimensional shape apex base build face solid shape vertex	after before stack	• 3-dimensional shapes • clay	Conceptual Understanding K.G.B.5
13-6	Describe 3-Dimensional Shapes in the World	Students identify real-world objects that are shaped like cubes, cones, spheres, and cylinders.	Students identify real-world objects shaped like 3-dimensional shapes by naming common and proper nouns.	13-6	3-dimensional shape apex base face vertex	place point	• real-world objects shaped like geometric solids • wooden geometric solids	Conceptual Understanding, Application K.G.A.1
<b>Fluency Practice</b>								
<b>Unit Review</b>								
<b>Unit Assessment</b>								
<b>Performance Task</b>								

## PACING: 9 days

LESSON	MATH OBJECTIVE	LANGUAGE OBJECTIVE	SOCIAL AND EMOTIONAL LEARNING OBJECTIVE	LESSON	KEY VOCABULARY	MATERIALS TO GATHER	RIGOR FOCUS	STANDARD			
<b>Unit Opener</b> <i>How Big?</i> Students build cubes and discuss their measurable attributes.											
14-1	Describe Attributes of Objects	Students describe an object by measurable attributes, including length, height, weight, and capacity.	Students use adjectives to describe objects by measurable attributes such as length, height, weight, and capacity.	Students demonstrate thoughtful reflection through identifying the causes of challenges and successes while completing a mathematical task.	14-1	<b>Math Terms</b> capacity height length weight	<b>Academic Terms</b> detail explain	<ul style="list-style-type: none"> <li>cups of different sizes</li> <li>objects that can be described by length, height, weight, and capacity</li> </ul>	Conceptual Understanding	K.MD.A.1	
14-2	Compare Lengths	Students compare the length of two objects by aligning the ends of the objects and determining which object is longer. Given drawings of two objects, students identify which object is longer.	Students use comparative adjectives to compare lengths of objects and drawings of objects.	Students recognize and work to understand the emotions of others and practice empathetic responses.	14-2	length long (longer) short (shorter)	compare explain	<ul style="list-style-type: none"> <li>connecting cubes</li> <li>objects of different lengths</li> </ul>	Conceptual Understanding	K.MD.A.2	
14-3	Compare Heights	Students compare the height of two objects by aligning the ends of the objects and determining which object is taller. Given drawings of two objects, students identify which object is taller.	Students use comparative adjectives to compare heights of objects and drawings of objects.	Students collaborate with peers to complete a mathematical task and offer constructive feedback to the mathematical ideas posed by others.	14-3	height high (higher) short (shorter) tall (taller)	agree with plan	<ul style="list-style-type: none"> <li>building blocks</li> <li>objects of different heights</li> </ul>	Conceptual Understanding	K.MD.A.2	
<b>Math Probe</b> <i>Comparing Objects</i> Students compare objects based on their measurable attributes.											
14-4	Compare Weights	Students compare the weight of two objects by placing them on a balance and determining which object is heavier. Given drawings of two objects on a balance, students identify which object is heavier.	Students use comparative adjectives to compare weights of objects and drawings of objects.	Students set learning goals and initiate work on tasks to accomplish their goals.	14-4	heavy (heavier) light (lighter) weighs less weighs more weight	because tool	<ul style="list-style-type: none"> <li>balance scale</li> <li>beans</li> <li>masking tape</li> </ul>	<ul style="list-style-type: none"> <li>objects that can be used to compare weights</li> <li>small paper cups</li> </ul>	Conceptual Understanding	K.MD.A.2
14-5	Compare Capacities	Students compare the capacity of two objects by filling each with a set quantity of water/sand and determining which object holds more. Given drawings of two objects, students identify which has greater capacity.	Students use comparative adjectives to compare capacities of objects and drawings of objects.	Students identify personal traits that make them good students, peers, and math learners.	14-5	capacity empty full holds less holds more	measure understand	<ul style="list-style-type: none"> <li>buckets or tubs</li> <li>cups of different sizes</li> <li>objects of different capacities</li> </ul>	Conceptual Understanding	K.MD.A.2	

Unit Review

Fluency Practice

Unit Assessment

Performance Task

## Module Goals

- Students write and evaluate numerical and algebraic expressions.
- Students simplify expressions using the Distributive Property.
- Students evaluate absolute value expressions.

## Focus

**Domain:** Algebra

**Standards for Mathematical Content:**

**A.SSE.1** Interpret expressions that represent a quantity in terms of its context.

**A.SSE.2** Use the structure of an expression to identify ways to rewrite it.

*Also addresses N.RN.3, N.Q.2 and N.Q.3*

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this module.

## Be Sure to Cover

To completely cover N.RN.3, go online to assign the following activity:

- Operations with Rational Numbers ([Expand 1-3](#))

## Coherence

### Vertical Alignment

#### Previous

Students performed operations on rational numbers.

**7.NS.1**

#### Now

Students take what they have learned about whole numbers and apply that to algebraic expressions.

**A.SSE.1, A.SSE.2**

#### Next

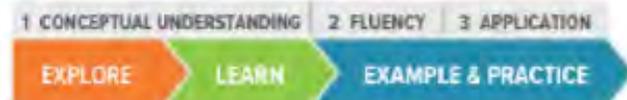
Students will create equations to solve problems.

**A.CED.1**

## Rigor

### The Three Pillars of Rigor

To help students meet standards, they need to illustrate their ability to use the three pillars of rigor. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Practice.



## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
1-1 Numerical Expressions	A.SSE.1b, A.SSE.2	2	1
1-2 Algebraic Expressions	A.SSE.1, A.SSE.2	1	0.5
1-3 Properties of Real Numbers	A.SSE.2	2	1
1-3 Expand Operations with Rational Numbers	N.RN.3	1	0.5
Put It All Together: Lessons 1-1 through 1-3		1	0.5
1-4 Distributive Property	A.SSE.1a, A.SSE.2	2	1
1-5 Expressions Involving Absolute Value	A.SSE.2	1	0.5
1-6 Descriptive Modeling and Accuracy	N.Q.2, N.Q.3	1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>14</b>	<b>7</b>

# Equations in One Variable

## Module Goals

- Students solve linear equations in one variable.
- Students solve proportions.
- Students use formulas to solve real-world problems.

## Focus

**Domains:** Number and Quantity, Algebra

**Standards for Mathematical Content:**

**A.CED.1** Create equations and inequalities in one variable and use them to solve problems.

**A.REI.1** Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

**A.REI.3** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

*Also addresses A.CED.3, A.CED.4, and N.Q.1.*

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this module.

## Coherence

### Vertical Alignment

#### Previous

Students wrote and solved one-, two-, and multi-step equations in one variable.

**6.EE.7, 7.EE.4a, 8.EE.7**

#### Now

Students write and solve equations in one variable.

**A.CED.1**

#### Next

Students will construct equations in two variables.

**A.CED.2**

## Rigor

### The Three Pillars of Rigor

To help students meet standards, they need to illustrate their ability to use the three pillars of rigor. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Practice.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION



## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Videos		1	0.5
2-1 Writing and Interpreting Equations	A.CED.1, A.CED.3	1	0.5
2-2 Solving One-Step Equations	A.CED.1, A.REI.1, A.REI.3	2	1
2-3 Solving Multi-Step Equations	A.CED.1, A.REI.3	1	0.5
2-4 Solving Equations with the Variable on Each Side	A.CED.1, A.REI.3	2	1
Put It All Together: Lessons 2-1 through 2-4		1	0.5
2-5 Solving Equations Involving Absolute Value	A.CED.1, A.REI.3	1	0.5
2-6 Solving Proportions	A.CED.1, A.REI.3	1	0.5
2-7 Using Formulas	A.CED.4, A.REI.3	2	1
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>14</b>	<b>7</b>

## Module Goals

- Students represent relations, and determine whether a relation is a function.
- Students use function notation, and find function values.
- Students graph linear and nonlinear functions, and identify their attributes.

## Focus

**Domains:** Number and Quantity, Algebra, Functions

**Standards for Mathematical Content:**

**F.IF.1** Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If  $f$  is a function and  $x$  is an element of its domain, then  $f(x)$  denotes the output of  $f$  corresponding to the input  $x$ . The graph of  $f$  is the graph of the equation  $y = f(x)$ .

**F.IF.2** Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

**F.IF.4** For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.

Also addresses *N.Q.1, F.IF.5, A.REI.10, and F.IF.9*

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this module.

## Coherence

### Vertical Alignment

#### Previous

Students understood the concept of a function.

**8.F.1**

#### Now

Students graph functions and interpret key features in graphs of functions.

**F.IF.1, F.IF.4**

#### Next

Students will construct linear and nonlinear functions to model and solve real-world problems.

**F.BF.1, F.LE.2**

## Rigor

### The Three Pillars of Rigor

To help students meet standards, they need to illustrate their ability to use the three pillars of rigor. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Practice.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Videos		1	0.5
3-1 Representing Relations	N.Q.1, F.IF.1	2	1
3-2 Functions	F.IF.1, F.IF.2	1	0.5
3-3 Linearity and Continuity of Graphs	F.IF.4, F.IF.5	1	0.5
3-4 Intercepts of Graphs	A.REI.10, F.IF.4	2	1
3-5 Shapes of Graphs	F.IF.4	2	1
Put It All Together: Lessons 3-1 through 3-5		1	0.5
3-6 Sketching Graphs and Comparing Functions	F.IF.4, F.IF.9	2	1
Module Review		1	0.5
Module Assessment		1	0.5
	<b>Total Days</b>	<b>14</b>	<b>7</b>

# Linear and Nonlinear Functions

## Module Goals

- Students graph linear, piecewise-defined, step, and absolute value functions.
- Students find and interpret the rate of change and slope of lines.
- Students identify the effects of transformations on the graphs of linear and absolute value functions.

## Focus

**Domain:** Functions

**Standards for Mathematical Content:**

**F.IF.7a** Graph linear and quadratic functions and show intercepts, maxima, and minima.

**F.IF.7b** Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.

**F.BF.3** Identify the effect on the graph of replacing  $f(x)$  by  $f(x) + k$ ,  $k f(x)$ ,  $f(kx)$ , and  $f(x + k)$  for specific values of  $k$  (both positive and negative); find the value of  $k$  given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.

*Also addresses A.CED.2, A.REI.10, F.IF.4, F.IF.6, F.BF.1a, F.BF.2, F.LE.1a, F.LE.2, and F.LE.5.*

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this module.

## Be Sure to Cover

To completely cover F.LE.1a, go online to assign the following activity:

- Linear Growth Patterns (Expand 4-3)

## Coherence

### Vertical Alignment

#### Previous

Students interpreted the equation  $y = mx + b$  as defining a linear function and gave examples of functions that are not linear.

**8.F.3**

#### Now

Students write and graph linear and nonlinear equations.

**F.IF.7a, F.IF.7b, F.BF.3**

#### Next

Students will build linear and nonlinear functions to model real-world data and relationships.

**F.BF.1 (Course 1, Course 2, Course 3)**

## Rigor

### The Three Pillars of Rigor

To help students meet standards, they need to illustrate their ability to use the three pillars of rigor. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Practice.

1 CONCEPTUAL UNDERSTANDING    2 FLUENCY    3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
<b>4-1</b> Graphing Linear Functions	A.REI.10, F.IF.7a, F.LE.5	1	0.5
<b>4-2</b> Rate of Change and Slope	F.IF.6, F.LE.5	1	0.5
<b>4-3</b> Slope-Intercept Form	A.CED.2, F.IF.7a, F.LE.5	2	1
<b>4-3</b> Expand Linear Growth Patterns	F.LE.1a	1	0.5
<b>4-4</b> Transformations of Linear Functions	F.IF.7a, F.BF.3	2	1
<b>4-5</b> Arithmetic Sequences	F.BF.1a, F.BF.2, F.LE.2	1	0.5
<b>4-6</b> Piecewise and Step Functions	F.IF.4, F.IF.7b	1	0.5
<b>4-7</b> Absolute Value Functions	F.IF.7b, F.BF.3	2	1
Put It All Together: Lessons 4-6 through 4-7		1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>15</b>	<b>7.5</b>

# Creating Linear Equations

## Module Goals

- Students create linear equations in slope-intercept, point-slope, and standard forms.
- Students use scatter plots to make and evaluate predictions, and use best-fit lines and correlation coefficients to determine how well linear functions fit sets of data.
- Students determine whether a situation illustrates correlation or causation.
- Students find inverses of functions.

## Focus

**Domain:** Algebra, Functions, Statistics and Probability

**Standards for Mathematical Content:**

**A.CED.2** Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

**S.ID.6c** Fit a linear function for a scatter plot that suggests a linear association.

**S.ID.7** Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

*Also addresses A.CED.3, S.ID.6a, S.ID.6, S.ID.8, S.ID.9, and F.BF.4a.*

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this module.

## Coherence

### Vertical Alignment

#### Previous

Students understood the connections between proportional relationships, lines, and linear equations.

**8.EE.5**

#### Now

Students create linear equations and analyze data to make predictions.

**A.CED.2, S.ID.6c, F.BF.4a**

#### Next

Students will use their knowledge of linear equations to build linear functions to model linear relationships.

**F.BF.1 (Course 1, Course 2)**

## Rigor

### The Three Pillars of Rigor

To help students meet standards, they need to illustrate their ability to use the three pillars of rigor. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Practice.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
<i>Module Pretest and Launch the Module Video</i>			
5-1 Writing Equations in Slope-Intercept Form	A.CED.2, S.ID.7	1	0.5
5-2 Writing Equations in Standard and Point-Slope Forms	A.CED.2, A.CED.3	2	1
<i>Put It All Together! Lessons 5-1 through 5-2</i>			
5-3 Scatter Plots and Lines of Fit	S.ID.6a, S.ID.6c	2	1
5-4 Correlation and Causation	S.ID.9	1	0.5
5-5 Linear Regression	S.ID.6, S.ID.8	1	0.5
5-6 Inverses of Linear Functions	A.CED.2, F.BF.4a	2	1
<i>Module Review</i>			
<i>Module Assessment</i>			
		1	0.5
<b>Total Days</b>		<b>13</b>	<b>6.5</b>

# Linear Inequalities

## Module Goals

- Students write and solve linear inequalities.
- Students graph linear inequalities in two variables.
- Students apply linear inequalities in problem-solving situations.

## Focus

**Domain:** Algebra

**Standards for Mathematical Content:**

**A.CED.1** Create equations and inequalities in one variable and use them to solve problems.

**A.REI.3** Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

*Also addresses A.CED.3 and A.REI.12.*

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this module.

## Coherence

### Vertical Alignment

#### Previous

Students constructed simple one-variable inequalities to solve real-world problems.

**7.EE.4**

#### Now

Students write, solve, and graph inequalities.

**A.CED.1, A.REI.3**

#### Next

Students will solve systems of inequalities.

**A.REI.12 (Course 1, Course 2)**

## Rigor

### The Three Pillars of Rigor

To help students meet standards, they need to illustrate their ability to use the three pillars of rigor. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Practice.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
6-1 Solve One-Step Inequalities	A.CED.1, A.REI.3	2	1
6-2 Solving Multi-Step Inequalities	A.CED.1, A.REI.3	1	0.5
6-3 Solving Compound Inequalities	A.CED.1, A.CED.3	2	1
Put It All Together: Lessons 6-1 through 6-3		1	0.5
6-4 Solving Absolute Value Inequalities	A.CED.1, A.CED.3	1	0.5
6-5 Graphing Inequalities in Two Variables	A.CED.3, A.REI.12	1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
	<b>Total Days</b>	<b>11</b>	<b>5.5</b>

## Module Goals

- Students solve systems of equations using a variety of methods.
- Students solve systems of equations using graphing technology.
- Students graph the solution sets of systems of linear inequalities.

## Focus

**Domain:** Algebra

**Standards for Mathematical Content:**

**A.CED.3** Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.

**A.REI.6** Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

**A.REI.12** Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

*Also addresses A.REI.5 and A.REI.11.*

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this module.

## Coherence

### Vertical Alignment

#### Previous

Students analyzed and solved simultaneous linear equations.

**8.EE.8**

#### Now

Students write and solve systems of two equations in two variables and solve systems of two inequalities in two variables.

**A.CED.3, A.REI.6, A.REI.12**

#### Next

Students will graph exponential functions, showing intercepts and end behavior, and interpret the parameters of the function in terms of a context.

**F.IF.7e, F.LE.2**

## Rigor

### The Three Pillars of Rigor

Students will use the three pillars of rigor to help them meet the standards. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Practice.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
7-1 Graphing Systems of Equations	A.REI.6, A.REI.11	2	1
7-2 Substitution	A.CED.3, A.REI.6	1	0.5
7-3 Elimination Using Addition and Subtraction	A.CED.3, A.REI.6	1	0.5
7-4 Elimination Using Multiplication	A.REI.5, A.REI.6	1	0.5
Put It All Together: Lessons 7-1 through 7-4		1	0.5
7-5 Systems of Inequalities	A.CED.3, A.REI.12	2	1
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>11</b>	<b>5.5</b>

## Module Goals

- Students write and solve exponential functions.
- Students graph and transform exponential functions.
- Students understand geometric sequences.

## Focus

**Domain:** Functions

**Standards for Mathematical Content:**

**F.IF.7e** Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.

**F.LE.2** Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (including reading these from a table).

*Also addresses:* A.SSE.3c, F.LE.1c, F.LE.5, F.BF.2, F.BF.3, F.IF.3, and F.IF.8b

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this module.

## Coherence

### Vertical Alignment

#### Previous

Students understood that linear functions have a constant rate of change.

**8.F.4**

#### Now

Students graph exponential functions, showing intercepts and end behavior, and interpret the parameters of the function in terms of a context.

**F.IF.7e, F.LE.2**

#### Next

Students will relate the inverses of exponential functions to logarithmic functions.

**F.LE.2 (Course 3)**

## Rigor

### The Three Pillars of Rigor

Students will use the three pillars of rigor to help them meet standards. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Practice.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
8-1 Exponential Functions	F.IF.7e, F.LE.1c, F.LE.5	1	0.5
8-2 Transformations of Exponential Functions	F.IF.7e, F.BF.3	3	1.5
8-3 Writing Exponential Functions	F.LE.2, F.LE.5	2	1
<b>Put It All Together: Lessons 8-1 through 8-3</b>		1	0.5
8-4 Transforming Exponential Expressions	A.SSE.3c, F.IF.8b	1	0.5
8-5 Geometric Sequences	F.BF.2, F.LE.2	1	0.5
8-6 Recursive Formulas	F.IF.3, F.BF.2	2	1
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>14</b>	<b>7</b>

## Module Goals

- Students represent data using numerical statistics and graphical methods.
- Students analyze the shapes of distributions.
- Students summarize and interpret categorical data using frequency tables.

## Focus

**Domain:** Numbers and Quantity, Statistics and Probability

**Standards for Mathematical Content:**

**S.ID.1** Represent data with plots on the real number line (dot plots, histograms, and box plots).

**S.ID.2** Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

**S.ID.3** Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

*Also addresses N.Q.1, S.ID.5*

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this module.

## Coherence

### Vertical Alignment

#### Previous

Students used statistics to describe and draw inferences about one or two populations of data.

**6.SP, 7.SP**

#### Now

Students use appropriate statistics to represent, compare, and analyze data.

**S.ID.2, S.ID.3**

#### Next

Students will approximate data by using a normal distribution.

**S.ID.4 (Course 3)**

## Rigor

### The Three Pillars of Rigor

Students will use the three pillars of rigor to help them meet standards. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Independent Practice.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
9-1 Measures of Center	Prep for S.ID.2	1	0.5
9-2 Representing Data	N.Q.1, S.ID.1	1	0.5
9-3 Using Data	Prep for S.IC.1, Prep for S.IC.6	1	0.5
9-4 Measures of Spread	N.Q.1, S.ID.1	1	0.5
9-5 Distributions of Data	S.ID.3	1	0.5
9-6 Comparing Sets of Data	S.ID.2, S.ID.3	2	1
9-7 Summarizing Categorical Data	S.ID.5	1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
	<b>Total Days</b>	<b>11</b>	<b>5.5</b>

## Module Goals

- Students understand the basic elements of geometry, including points, lines, segments, planes, and angles.
- Students measure distances and compute midpoints on number lines and the coordinate plane.

## Focus

**Domain:** Geometry

**Standards for Mathematical Content:**

**G.CO.1** Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.

**G.GPE.6** Find the point on a directed line segment between two given points that partitions the segment in a given ratio.

*Also addresses G.CO.12 and G.MG.1*

**Standards for Mathematical Practice:**

All standards for Mathematical Practice will be addressed in this module.

## Be Sure to Cover

To completely cover G.CO.12, go online to assign the following constructions.

- Copy a Line Segment (*Lesson 10-3*)
- Bisect a Segment (*Lesson 10-7*)

## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
10-1 The Geometric System		1	0.5
10-2 Points, Lines, and Planes	G.CO.1, G.MG.1	1	0.5
10-3 Line Segments	G.CO.1, G.CO.12	1	0.5
10-4 Distance	G.CO.1	1	0.5
10-5 Locating Points on a Number Line	G.GPE.6	1	0.5
10-6 Locating Points on a Coordinate Plane	G.GPE.6	1	0.5
10-7 Midpoints and Bisectors	G.GPE.6, G.CO.12	2	1
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>11</b>	<b>5.5</b>

## Coherence

### Vertical Alignment

#### Previous

Students graphed points on a number line and graphed points and lines on a coordinate plane.

**6.NS.6c, 8.EE.5, 8.EE.8a**

#### Now

Students derive and use the distance, slope, and midpoint formulas to verify geometric relationships, and students construct segments and lines using a variety of tools.

**G.CO.12, G.GPE.6**

#### Next

Students will represent transformations in the plane and make formal geometric constructions using a variety of tools and methods.

**G.CO.9, G.CO.12**

## Rigor

### The Three Pillars of Rigor

To help students meet standards, they need to illustrate their ability to use the three pillars of rigor. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. After they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Practice.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Module Goals

- Students find measures of angles.
- Students find measures of two- and three-dimensional figures.
- Students use precision and accuracy when reporting measurements.

## Focus

**Domain:** Geometry

**Standards for Mathematical Content:**

**G.CO.1** Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.

**G.MG.1** Use geometric shapes, their measures, and their properties to describe objects.

*Also addresses G.CO.2, G.CO.12, G.GPE.7, and G.GMD.3.*

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this Module.

## Be Sure to Cover

To completely cover G.CO.12, go online to assign the following activities:

- Bisect an Angle (Construction, Lesson 11-1)
- Copy an Angle (Construction, Lesson 11-1)
- Construct a Perpendicular Bisector of a Segment (Construction, Lesson 11-2)
- Construct a Perpendicular Line Through a Point on the Line (Construction, Lesson 11-2)
- Construct a Perpendicular Line Through a Point Not on the Line (Construction, Lesson 11-2)
- Representing Transformations (Tracing Activity, Lesson 11-4)

## Coherence

### Vertical Alignment

#### Previous

Students studied angles and two- and three-dimensional figures in Grades 7-8.

**6.G, 7.G, 8.G**

#### Now

Students represent transformations in the plane and make formal geometric constructions using a variety of tools and methods.

**G.CO.2, G.CO.12**

#### Next

Students will prove theorems about lines and angles.

**G.CO.9**

## Rigor

### The Three Pillars of Rigor

To help students meet standards, they need to illustrate their ability to use the three pillars of rigor. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Practice.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
11-1 Angles and Congruence	G.CO.1, G.CO.12	2	1
11-2 Angle Relationships	G.CO.1, G.CO.12	2	1
11-3 Two-Dimensional Figures	G.GPE.7, G.MG.1	1	0.5
11-4 Transformations in the Plane	G.CO.2	3	1.5
11-5 Three-Dimensional Figures	G.MG.1, G.GMD.3	1	0.5
11-6 Two-Dimensional Representations of Three-Dimensional Figures	G.MG.1	1	0.5
11-7 Precision and Accuracy	N.Q.3	2	1
11-8 Representing Measurements	N.Q.3	1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>16</b>	<b>8</b>

## Module Goals

- Students look for patterns and write conjectures based on those patterns.
- Students prove conjectures using logical arguments or disprove conjectures using counterexamples.
- Students apply logical arguments to basic line and angle relationships.

## Focus

**Domain:** Geometry

**Standards for Mathematical Content:**

**G.CO.9** Prove theorems about lines and angles.

**G.CO.12** Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.).

*Also addresses G.CO.1, G.GPE.5, and G.MG.3.*

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this module.

## Be Sure to Cover

To completely cover G.CO.12, go online to assign the following construction activities:

- Construct a Segment Twice as Long as a Given Segment (Lesson 12-5)
- Construct a Line Parallel to a Given Line Through a Given Point (Lesson 12-9)

## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
12-1 Conjectures and Counterexamples		1	0.5
12-2 Statements, Conditionals, and Biconditionals		1	0.5
12-3 Deductive Reasoning		1	0.5
Put It All Together, Lessons 1 through 3		1	0.5
12-4 Writing Proofs		3	1.5
12-5 Proving Segment Relationships	G.CO.9, G.CO.12	1	0.5
12-6 Proving Angle Relationships	G.CO.9	2	1
12-7 Parallel Lines and Transversals	G.CO.1, G.CO.9	1	0.5
12-8 Slope and Equations of Lines	G.GPE.5	2	1
12-9 Proving Lines Parallel	G.CO.9, G.CO.12	1	0.5
12-10 Perpendiculars and Distance	G.CO.12, G.MG.3	2	1
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>19</b>	<b>9.5</b>

## Coherence

### Vertical Alignment

#### Previous:

Students defined and used lines, line segments, angles, and two-dimensional figures.

**G.CO.1**

#### Now:

Students prove theorems about lines, line segments, and angles.

**G.CO.9**

#### Next:

Students will prove theorems about triangles.

**G.CO.10**

## Rigor

### The Three Pillars of Rigor

To help students meet standards, they need to illustrate their ability to use the three pillars of rigor. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. After they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Independent Practice.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Module Goals

- Students perform and use rigid motions including rotations, translations, and reflections.
- Students perform and use compositions of transformations.
- Students explore symmetry using transformations.

## Focus

**Domain:** Geometry

**Standards for Mathematical Content:**

**G.CO.5** Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.

*Also addresses G.CO.3, G.CO.4, and G.CO.6.*

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this module.

## Be Sure to Cover

To completely cover G.CO.5, go online to assign the following activities:

- Reflect a Figure in a Line (Construction, Lesson 13-1)
- Determining Congruence with Reflections (Tracing Activity, Lesson 13-1)
- Representing Reflections (Tracing Activity, Lesson 13-1)
- Determining Congruence with Translations (Tracing Activity, Lesson 13-2)
- Representing Translations (Tracing Activity, Lesson 13-2)
- Determining Congruence with Rotations (Tracing Activity, Lesson 13-3)
- Rotating About a Point That is Not the Origin (Tracing Activity, Lesson 13-3)
- Representing Compositions of Transformations (Tracing Activity, Lesson 13-4)

## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
13-1 Reflections	G.CO.4, G.CO.5, G.CO.6	1	0.5
13-2 Translations	G.CO.4, G.CO.5, G.CO.6	1	0.5
13-3 Rotations	G.CO.4, G.CO.5, G.CO.6	1	0.5
13-4 Compositions of Transformations	G.CO.5, G.CO.6	2	1
13-5 Tessellations	G.CO.4, G.CO.5	1	0.5
13-6 Symmetry	G.CO.3, G.CO.5	1	0.5
Pull It All Together: Lessons 13-1 through 13-6		1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>11</b>	<b>5.5</b>

## Coherence

### Vertical Alignment

#### Previous

Students described the effect of transformations on two-dimensional figures using coordinates.

**8.G.3**

#### Now

Students perform transformations on two-dimensional figures.

**G.CO.3**

#### Next

Students will use the definition of congruence in terms of rigid motions to show that two triangles are congruent and use the congruence criteria to solve problems and prove relationships.

**G.CO.7, G.CO.8, G.SRT.5**

## Rigor

### The Three Pillars of Rigor

To help students meet standards, they need to illustrate their ability to use the three pillars of rigor. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Practice.

1 CONCEPTUAL UNDERSTANDING    2 FLUENCY    3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

# Triangles and Congruence

## Module Goals

- Students use triangle sum theorems to solve problems.
- Students prove triangles congruent using different congruence criteria.
- Students use congruent triangles to solve problems.

## Focus

**Domain:** Geometry

**Standards for Mathematical Content:**

**G.CO.10** Prove theorems about triangles.

**G.SRT.5** Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

*Also addresses G.CO.7, G.CO.8, and G.GPE.4.*

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this module.

## Be Sure to Cover

To completely cover G.CO.12, go online to assign the following constructions:

- Construct a Congruent Triangle (Lessons 14-3 and 14-4)
- Construct an Equilateral Triangle (Lesson 14-6)
- Construct an Isosceles Right Triangle (Lesson 14-6)

## Coherence

### Vertical Alignment

#### Previous

Students used transformations to determine congruence between two-dimensional figures.

**8.G.2**

#### Now

Students use the definition of congruence in terms of rigid motions to show that two triangles are congruent and use the congruence criteria to solve problems and prove relationships.

**G.CO.7, G.CO.8, G.SRT.5**

## Rigor

### The Three Pillars of Rigor

To help students meet standards, they need to illustrate their ability to use the three pillars of rigor. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Practice.

1 CONCEPTUAL UNDERSTANDING | 2 FLUENCY | 3 APPLICATION

EXPLORE

LEARN

EXAMPLE & PRACTICE

## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
<b>14-1</b> Angles of Triangles	G.CO.10	2	1
<b>14-2</b> Congruent Triangles	G.CO.7, G.SRT.5	1	0.5
<b>14-3</b> Proving Triangles Congruent: SSS, SAS	G.CO.8, G.SRT.5	1	0.5
<b>14-4</b> Proving Triangles Congruent: ASA, AAS	G.CO.8, G.CO.10, G.SRT.5	1	0.5
Put It All Together: Lessons 14-2 through 14-4		1	0.5
<b>14-5</b> Proving Right Triangles Congruent	G.CO.8, G.CO.10, G.SRT.5	1	0.5
<b>14-6</b> Isosceles and Equilateral Triangles	G.CO.10, G.SRT.5	1	0.5
<b>14-7</b> Triangles and Coordinate Proof	G.CO.10, G.GPE.4	1	0.5
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>12</b>	<b>6</b>

## Module Goals

- Students graph quadratic functions and their transformations.
- Students solve quadratic equations using a variety of methods.
- Students solve systems of linear and quadratic equations.

## Focus

**Domain:** Algebra, Functions

**Standards for Mathematical Content:**

**F.IF.4** For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.

**F.BF.3** Identify the effect on the graph of replacing  $f(x)$  by  $f(x) + k$ ,  $k f(x)$ ,  $f(kx)$ , and  $f(x + k)$  for specific values of  $k$  (both positive and negative); find the value of  $k$  given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology.

**A.REI.4** Solve quadratic equations in one variable.

*Also addresses A.SSE.1a, A.SSE.3a, A.SSE.3b, A.CED.1, A.CED.2, A.REI.1, A.REI.7, A.REI.10, F.IF.5, F.IF.7a, F.IF.8a, F.IF.9, F.LE.1, F.LE.3, F.LE.5, F.BF.1b, and S.ID.6a.*

**Standards for Mathematical Practice:**

All Standards for Mathematical Practice will be addressed in this module.

## Be Sure to Cover

To completely cover A.REI.4a and F.LE.1a, go online to assign the following activities:

- Deriving the Quadratic Formula Algebraically (Explore 1, Lesson 12-4)
- Deriving the Quadratic Formula Visually (Explore 2, Lesson 12-6)
- Exponential Growth Patterns (Expand 12-8)

## Suggested Pacing

Lessons	Standards	45-min classes	90-min classes
Module Pretest and Launch the Module Video		1	0.5
12-1 Graphing Quadratic Functions	F.IF.4, F.IF.7a	1	0.5
12-2 Transformations of Quadratic Functions	F.IF.7a, F.BF.3	2	1
12-3 Solving Quadratic Equations by Graphing	F.IF.7a, F.IF.8a	1	0.5
12-4 Solving Quadratic Equations by Factoring	A.SSE.3a, A.REI.4b, F.IF.8a	2	1
12-5 Solving Quadratic Equations by Completing the Square	A.SSE.3b, A.REI.4, F.IF.8a	1	0.5
12-6 Solving Quadratic Equations by Using the Quadratic Formula	A.CED.1, A.REI.4	1	0.5
Put It All Together, Lessons 12-3 through 12-6		1	0.5
12-7 Solving Systems of Linear and Quadratic Equations	A.CED.2, A.REI.7	1	0.5
12-8 Modeling and Curve Fitting	F.LE.1, F.LE.3	1	0.5
Expand 12-8 Exponential Growth Patterns	F.LE.1a	1	0.5
12-9 Combining Functions	F.BF.1b	2	1
Module Review		1	0.5
Module Assessment		1	0.5
<b>Total Days</b>		<b>17</b>	<b>8.5</b>

## Coherence

### Vertical Alignment

#### Previous

Students add, subtract, multiply, and factor polynomials.  
**A.APR.1, A.SSE.2**

#### Now

Students graph, analyze transformations, and describe the relationship between the zeros and the factors of quadratic functions.  
**A.SSE.3a, A.APR.3, F.BF.3**

#### Next

Students use trigonometric identities to simplify expressions and solve equations.  
**F.TF.8, F.TF.9**

## Rigor

### The Three Pillars of Rigor

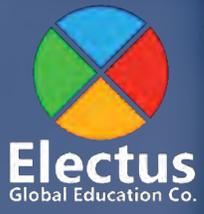
Students will use the three pillars of rigor to help them meet standards. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Independent Practice.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE

LEARN

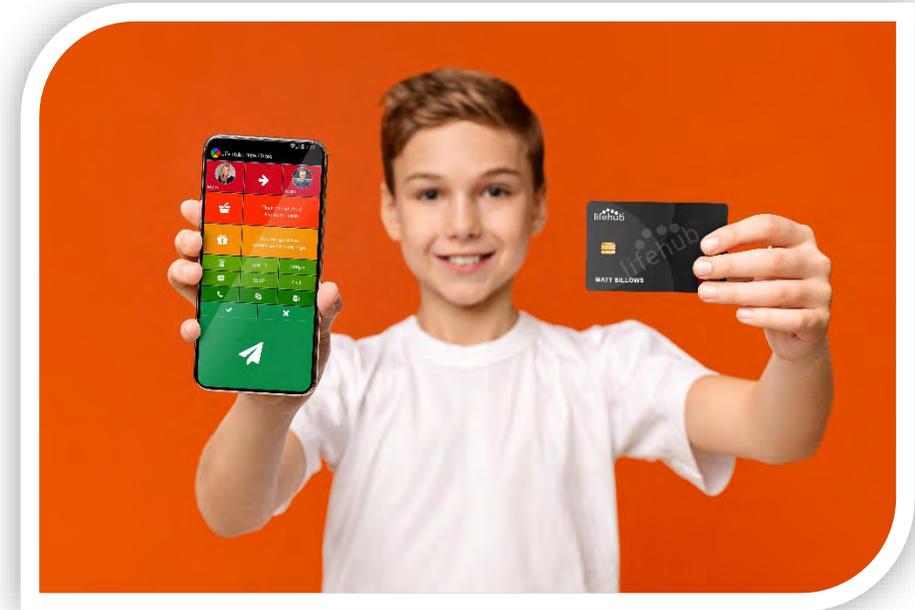
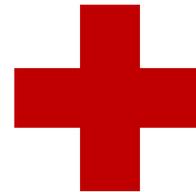
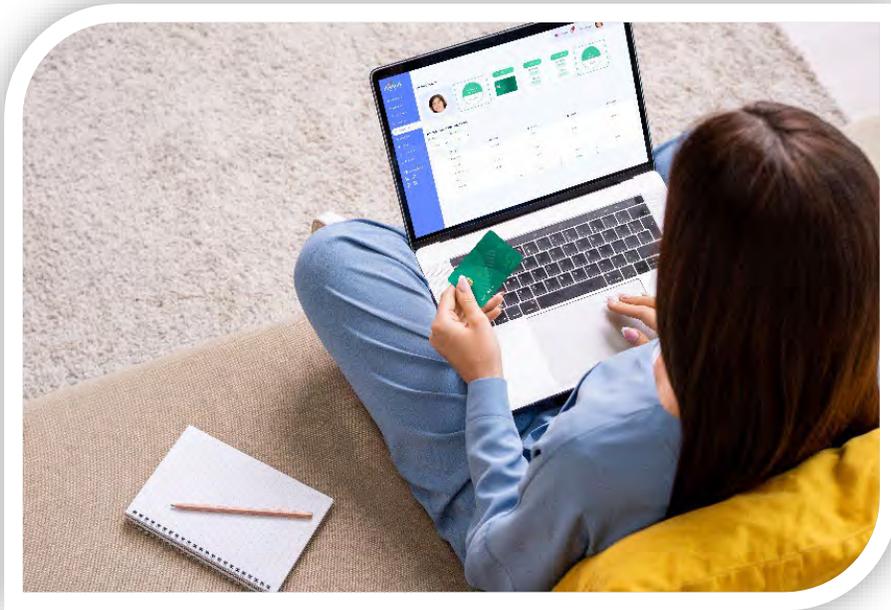
EXAMPLE & PRACTICE



# The FLEC Education Kids Deserve



The first transitional platform for financial literacy, entrepreneurship and career (FLEC) education designed *specifically* for behavior modeling.



5-18 Years  
Behavior  
Formation

Web App  
with Life Hub  
VISA Debit Card

5-18 Years  
Behavior  
Application

Mobile App  
with Life Hub  
VISA Debit Card

The Learn How-to-Earn Technology

Do Edu-Tasks & Jobs

Learn  
How to Earn  
Like Never  
Before



EdTech

Earn Cash on Card

Get your  
**FREE**  
LIFE HUB VISA



FinTech





# COMPREHENSIVE SOLUTION CENTERED ON EARNING

Software modules built around five key financial pillars:

**Earn, Save, Spend, Invest, & Give.**

But you can't save, spend, invest, or give without earning first.

So, our technology is centered around EARNING.



# FINANCIAL EDUCATION + PRODUCTIVITY SKILLS

Age-appropriate content design fosters high levels of engagement and embedded productivity tools supported with training have wrap-around benefits and value.

**Sample Edu-Task/Job**  
**How Much Does My Puppy Cost?**  
*Click to Play*



**Learn with Video**



**Learn with Audio**

**Multi-Sensory  
Learning + Tools**

  
Microsoft  
education



**Learn with Words**

# CURATED CONTENT FROM EXPERTS & PARENTS

Partnerships with top youth financial education experts, authors, game developers and curriculum providers enables breadth & depth of content at low to no cost

## ↶| Edu-Tasks/Jobs

Children watch videos on a variety topics, then do light research and perform tasks using Word, Excel & PowerPoint

## ↶| Edu-Games

Children play educational games including math, money and life to achieve certain scores

## ↶| Edu-Challenges

Children watch videos on a wide variety of topics and complete Q&As including multiple choice

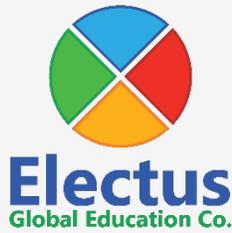
## ↶| Home Jobs

Children perform home jobs like household chores assigned by parents and guardians

## ↶| Community Jobs

Children perform jobs assigned by next door neighbors and households in their community

# LEARNING PRODUCTIVITY SKILLS



Learn productivity skills by using Microsoft 365 to perform the edu-tasks and micro-jobs.

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**Free**

Microsoft 365  
Subscription for every  
student - \$70 Value.



Word

Word is the go-to-tool for children to create, write and submit their work for the edu - tasks, and jobs including research projects



Excel

Children will sometimes need to use Excel to do the edu-tasks, and jobs, including research projects that require numbers



PowerPoint

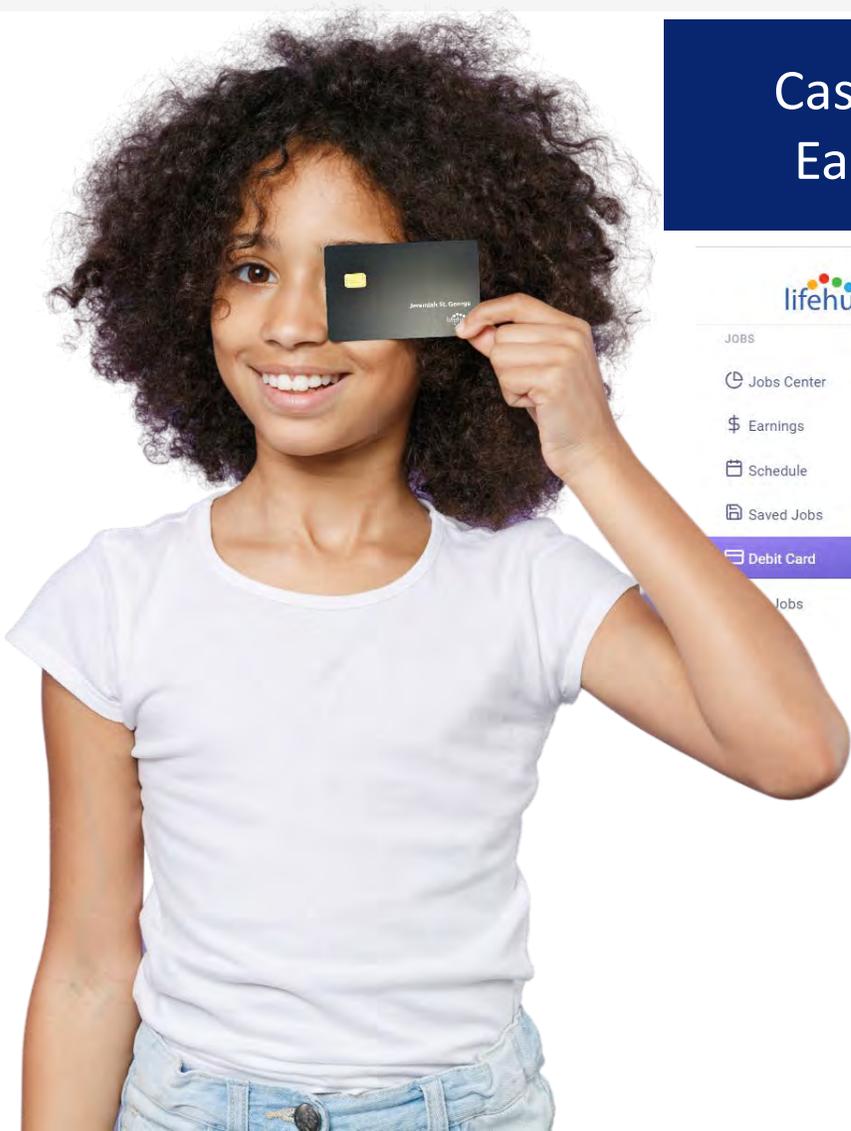
Children will be tasked to perform simple research and then create PowerPoint presentations about that research and its conclusions



**Electus**  
Global Education Co.

# LIFE HUB VISA DEBIT CARD

Cash earnings loaded to **Life Hub VISA Debit Cards** on payday Fridays. Earning, saving and spending behaviors are tracked on the platform.



The screenshot displays the Life Hub app interface. On the left is a navigation menu with options: JOBS, Jobs Center, Earnings, Schedule, Saved Jobs, Debit Card (highlighted), and Jobs. The main content area is divided into three sections:

- Debit Card Activity:** A bar chart showing earnings (green) and spendings (red) from March to February. A single green bar in June indicates an earning of approximately \$20.
- Debit Card:** A digital representation of the card with the name JADEN JAMES and card number \*\*\*\* \* 1809. Below it, the Debit Card Balance is shown as \$3.64.
- Transactions History:** A table listing recent transactions with columns for DATE, MERCHANT, DETAILS, and TYPE. All listed transactions are 'APPROVED CHARGE'.

DATE	MERCHANT	DETAILS	TYPE
2021-06-11 17:07:00	TACO BELL 017398, TAMPA, FL	EATING PLACES RESTAURANTS	APPROVED CHARGE
2021-06-11 17:18:41	IN *EMPIRE BUILDING SU, TAMPA, FL	HARDWARE STORES	APPROVED CHARGE
2021-06-11 17:23:11	7TH AVE SUPERMARKET, TAMPA, FL	MISCELLANEOUS SPECIALTY RETAIL	APPROVED CHARGE

# THE EARNINGS FOR THE WORK

Children earn cash, badges, certificates, tokens, gifts vouchers & discounts



Cash on  
Life Hub  
VISA  
Debit Card



Digital  
Badges,  
Certificates  
& Tokens

(Q2 2022)



Gifts  
&  
Rewards  
(Q3 2022)



Vouchers  
&  
Discounts  
(Q3 2022)

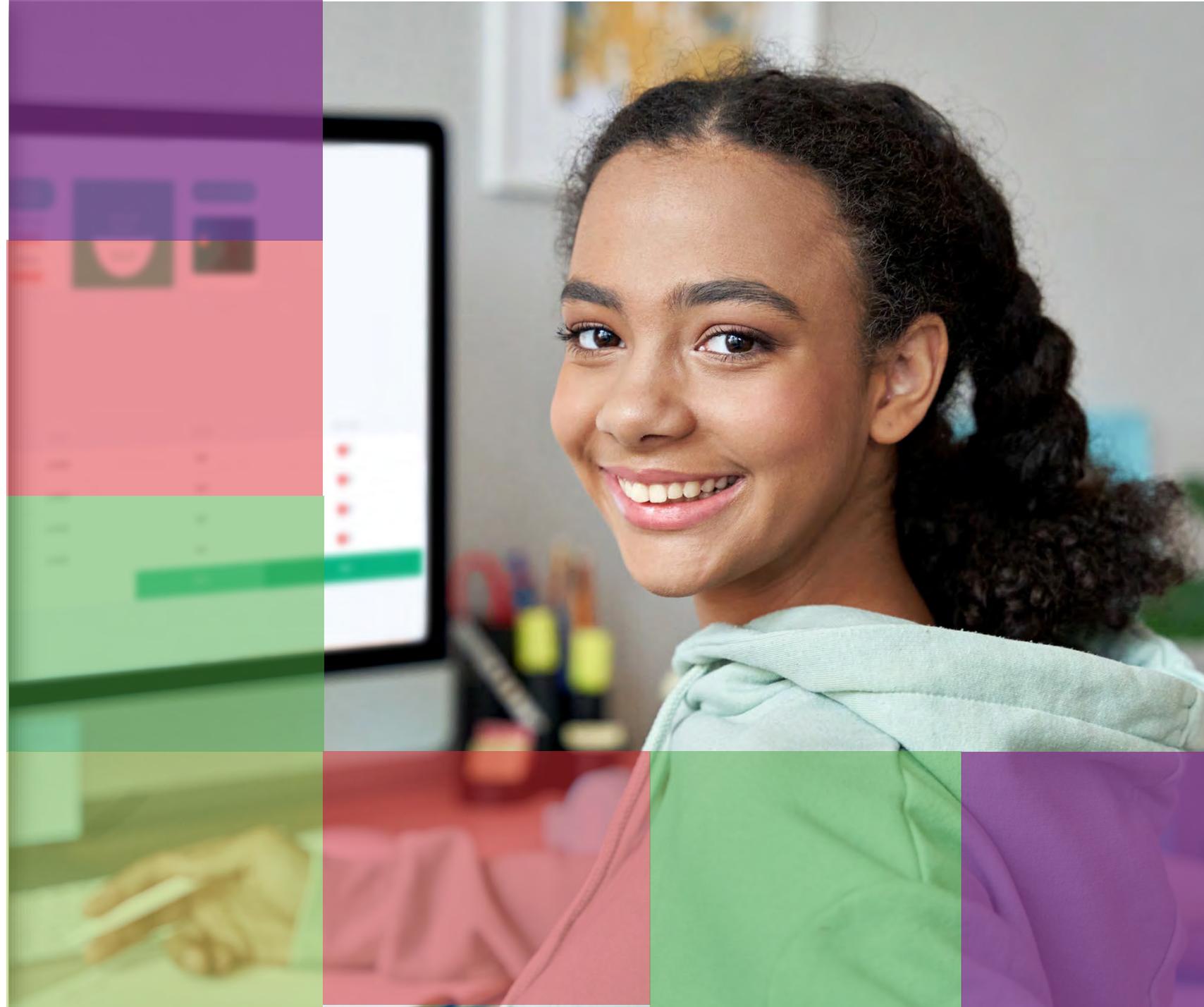


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# Introduction

## ***The Impact of Math Remediation***

In “*Paying Double: Inadequate High Schools and Community College Remediation*,” the Alliance for Excellent Education reports the leading indicator that a student will drop out of college is the need for remedial education.<sup>1</sup> Nationally, 35% of college freshmen enroll in remedial math, more than any other subject area.

In Washington State, the majority of high school graduates begin higher education at a community or technical college. According to the State Board for Community and Technical Colleges, 49% of students entering a two-year college **directly after** high school must take a pre-college math course before enrolling in a credit math course.

Students who need remediation are more likely to drop out of post-secondary training, thus impacting individual lifetime earnings and career progression opportunities. As the learning gap widens between qualified and unskilled workers, the expense of remediation hurts socially, and economically.

## ***College Readiness Standards: A Clear Vision of Math Expectations in Washington State***

The **Transition Math Project (TMP)** is a collaborative of K-12 schools, community and technical colleges and baccalaureate institutions committed to reversing the alarming remediation rates between high school and college-level math. In 2004, TMP developed the **College Readiness Standards** to define the core knowledge and skills expected of students entering college-level mathematics courses.

Locally-driven partnerships are now underway to align these standards between eleventh and twelfth grade math curricula and college introductory curricula, and to increase the professional capacity of instructors through improved instructional course and program design, teaching methods, and classroom assessments.

The term “college readiness” is not exclusive to universities. In fact, the term “work readiness” can be easily inserted in its place, because the end purpose of all post-secondary education is having the personal means to get and progress in a desired job.

Apprenticeships and two-year construction programs at community and technical colleges are dealing with severe math remediation issues. In part, many students and their primary influences – parents, peers, teachers and counselors – do not know enough about the academic preparation needed in post-secondary construction training.

Proficiency in fundamental (basic) math - number sense, geometry, and algebra – is essential to all professions in all phases of construction- from design to building to maintenance.



<sup>1</sup> August 2006. “Paying Double: Inadequate High Schools and Community College Remediation,” Alliance for Excellent Education Issue Brief, page 3. (1/07)

## ***Construction Math: A Blueprint for Success***

Math is the language of Construction. It is the one “tool” that solves nearly any problem on-the-job involving accuracy, efficiency or safety. Construction workers communicate and make decisions using math. Math is both precision and artistry in construction– without it, the marvels of ancient pyramids and cathedrals to modern stadiums, bridges, and skyscrapers could never have been built.

This toolbox has been created especially to bring fresh and exciting industry math to the classroom. Teachers can use the following lesson plans or examples in *Laying the Foundation: Construction Math* (Tab 14) to demonstrate how fundamental math principles are used on the job – rarely at a desk, and often, without paper and pencils! The math “demonstrations” designed for each lesson help students who are having trouble retaining fundamental math concepts.

Learning is satisfying when it makes sense – when there is a good reason to know and be able to apply what is learned. This is especially true for adolescents, who are attempting to “make sense” of their own lives and choices, and where information they receive in school “fits” into their future. More often than not, students discard valuable math skills, not because they may be difficult to master, but because a practical, beneficial use is not made apparent.

Even for students who are not interested in a construction career, construction math can make difficult concepts more sequential and tangible, and thus more likely to be retained and transferred. We think this exposure to construction math will help **all** students:

- consider the range of satisfying career paths in the construction industry; and
- recognize the value of math through real-world application.

## ***Connecting Standards to Academic and Career Planning***

This toolbox offers more than construction math: it provides teachers with additional career guidance tools for students who express interest in construction, **because of this exposure** to construction math. These tools can be incorporated into class lessons and activities, or shared with individuals.

Teachers are often the first – and sometimes, the only – influence who provide information on career training options post high school. Sometimes, this information is limited to the teacher’s knowledge of a particular industry, or the resources he or she may have on hand.

When a student plans an academic schedule each semester, he or she may not always consider whether selected courses match the prerequisites of his or her desired career path. Academic course taking is a root issue for students who are under-prepared for post-secondary education. Course selection begins with solid planning that links academic requirements to future goals.

Students who are interested in construction careers need to be advised to take **at least three years of college-preparatory math courses** during high school; optimally, their academic schedule will include math in their senior year.

If your school offers a career-technical education course in construction, or you are connected to a Skills Center, we encourage you to use these materials for creative team-teaching experiences. Tab 12 has a list of construction-related activities you can use to enrich classroom learning.





## **Construction: The Top Non-Manufacturing Sector in the United States**

Did you know Construction is the largest industry in the world? It employs 7.2 million people in the United States alone. Further, the U.S. Bureau of Labor Statistics reports construction is the only non-manufacturing sector with projected employment growth over the next decade, adding at least 1,000,000 new jobs. In Washington, construction has outpaced all other industries in revenue and new business startup since 2004; in fact, most construction firms in state are small specialty craft or contractors. Without a skilled workforce, major commercial and capital projects in Washington will be delayed indefinitely.



Many people associate construction with labor-intensive occupations only, which are perceived as dirty, dangerous, and low-paying jobs. This misperception leads to the assumption that low or no skill workers comprise most of the construction workforce.

**This is far from the case.**

The technical and academic skills needed to progress in all construction industry jobs are sophisticated. Post-secondary training is essential for anyone who wants to build a satisfying and financially rewarding career in construction.

Nearly all construction-related programs and many apprenticeships are offered through Washington's community and technical colleges. Some apprenticeships are co-located at colleges, and some are located on independent campuses throughout the state. In our state, registered apprenticeship is regulated by the Washington State Apprenticeship Training Council, and is administered by the Washington State Department of Labor and Industries (LNI). Many apprentices in Washington can earn an associate's degree.

Two and four-year degrees can be pursued in other construction professions too, including architecture, design, engineering, maintenance and management at one of Washington's community or technical colleges, or universities. As with trades professionals, there is a high demand for workers in these phases of construction.

It is not uncommon to see a person begin a construction career in a specialty craft, and move into project coordination, safety consulting and even business ownership. There is a world of diverse career choices within this dynamic industry.

This is **good news for young people who are well prepared** to enter the world of construction: unprecedented employment growth, coupled with projected labor shortages, means this group will enjoy career mobility and financial satisfaction for years to come.

## ***How to use this toolbox***

This toolbox was designed for middle and high school math teachers to enrich their classes with industry-based lessons and supporting career guidance information.

### **Tabs 2 – 11: Construction Math Lesson Packages**

These packages are based on fundamental math principles important in construction, and include fun, hands-on activities. These packages include:

- One lesson plan (which can be taught in 50 minutes, or divided into segments) designed with suggested hands-on props
- A student test
- An instructor's key
- Support graphics and materials

Each lesson connects to specific content standards of the College Readiness Standards. Content standards define the mathematical concepts a student needs to know before graduating from high school, to be prepared for college and work. All of the lessons connect to the process standards of communication, connections and problem solving. Process standards explain how the content knowledge and skills of math can be applied. **Note:** The content standards were defined at 9th and 10th grade level expectations for math, as outlined in the Essential Academic Learning Requirements. These construction math packages were designed to practice and reinforce early and fundamental components of the college readiness standards that are typically taught in the early years of high school.

### **Tab 12 and Front Binder Pocket: Additional Teacher Resources**

This section includes lists of useful online math resources, and a list of suggested activities that can be done in conjunction with a construction math lesson. The front pocket of the toolbox contains:

- College Readiness Standards booklet
- Got Math? Transitions Math Project brochure
- AGC Education Foundation Get Smart brochure

### **Tab 13 and Back Binder Pocket: Career Guidance Resources**

This section equips teachers to help students who express interest in pursuing a construction career. Materials include:

- Construction & Trades Career “Tree” and the Construction & Apprenticeship Trades Career “Forest” graphics
- Construction Trades Job Descriptions, including academic and entrance requirements
- Community and Technical College Training Matrix, with contact directory
- Apprenticeship program contact information, by region

The back flap of the toolbox includes a career planning booklet, a construction brochure, and an apprenticeship DVD for additional individual advising and/or classroom activities.

### **Tab 14: *Laying the Foundation: Construction Math***

This booklet contains math examples gathered from construction programs and apprenticeships in 2005. This booklet is not copyrighted – you may make derivative works.

For easy printing, *Laying the Foundation* and the Construction Math Lesson Packages are also on a CD-Rom in the front inside pocket of your toolbox binder.



# Acknowledgements

Funding for the development of this toolbox and associated workshops and institutes was provided by a one-year capacity grant made to the Construction Center of Excellence by the Transition Math Project, which is managed by the Washington State Board for Community and Technical Colleges.

The Construction Center of Excellence at Renton Technical College acknowledges these leaders for their contributions to the *Blueprint for Success – Construction Math Toolbox*:

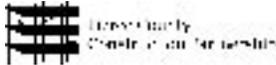


Associated General Contractors of Washington Education Foundation



New Market Skills Center- the K12 Building Trades Center of Excellence

Office of the Superintendent of Public Instruction of Washington State



Pierce County Construction Partnership



Snohomish County Construction Careers Partnership



South Central Workforce Development Council



Spokane Area Workforce Development Council

Washington State Apprenticeship Training Council



Washington State Building and Construction Trades Council, AFL-CIO



Washington State Department of Labor and Industries



Washington State Workforce Training and Education Coordinating Board



Youth Council of Seattle-King County

## ***Additional Contributions***

The Construction Center of Excellence extends its appreciation to the following individuals and organizations for participating in a formative evaluation process of the construction math lesson plans developed for this toolbox. This process included expert curriculum expert reviews, lesson plan pilot tests, and a focus group ensuring the content and layout of this package is user-friendly.

**Sandy Christie** - Puget Sound Educational Service District

**Brian Duggan** - Kent School District

**Linda Drake** - Pierce County Careers Connection

**Rebecca Harrison** - Tacoma-Pierce County Workforce Development Council

**Doug Hartley** - King County YouthSource/Youth Build Program

**Cathy Jenner** - Renton Technical College

**Nan Johnson** - Seattle School District/ACE Program

**John Knudson** - Seattle Central Community College

**Leanne Liddicoat** - Associated General Contractors of Washington Education Foundation

**B. Gregg Meyers** - Mount Si High School

**Char Nelson** - West Sound Tech Prep Consortium

**Derek Sparks** - Associated General Contractors of Washington Education Foundation

**Terry Tilton** - Washington State Construction and Building Trades Council, AFL-CIO

**Mike Warren** - Northwest Laborers Training Trust

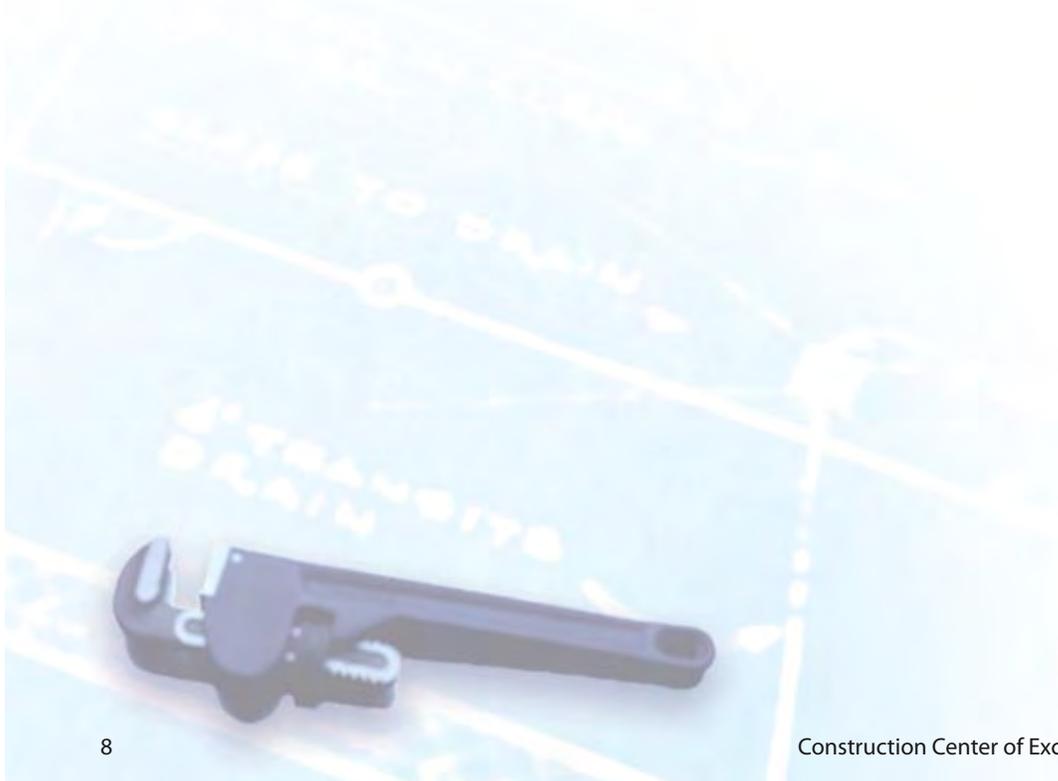
## **Special Acknowledgement**

The Construction Center of Excellence extends its thanks to our toolbox designers, whose work connects format to function:

**Judy Amico** - Renton Technical College

**Kris Beecroft** - Renton Technical College

**Helena Johnson** - Sun Graphics Design



## Copyright

The math lesson plans and *Laying the Foundation* math book are not copyrighted. You are free to copy, distribute for educational purposes, or make derivative works of these materials. Most of this Toolbox is available for free download at the CCE website, [www.rtc.edu/CommunityResources/CCE](http://www.rtc.edu/CommunityResources/CCE).

**The support materials should not be copied without express permission from the originator.**

- The “Apprenticeship: Original 4-Year Degree” DVD included in hard copy Toolboxes is provided courtesy of the Washington State Building and Construction Trades Council, and it is copyrighted. Please do not copy this DVD – if you wish to obtain copies, please call 360.357.5778.
- The “Where Are You Going?” Career Guidance guide is provided courtesy of the Washington State Workforce Training and Education Coordinating Board. To obtain additional copies, please call 360.7543.5662 or go to <http://www.wtb.wa.gov>.
- The “Construction and Trades Career Tree” and “Construction and Trades Career Forest” documents are provided courtesy of the Snohomish County Workforce Development Council. For more information, please call 425.921.3423. You can download additional copies and view all industry trees at <http://www.worksourceonline.com/b/careertrees.htm>.
- The construction career job descriptions under Tab 13 are excerpts from the Washington State Registered Apprenticeship Catalog, and are provided courtesy of the Washington State Department of Labor and Industries. Full copies are available online at:
- The “Hot Jobs/Cool Careers” brochure is provided courtesy of the Associated General Contractors of Washington Education Foundation. To order additional copies, and inquire about other career guidance tools, including STEPS magazine, please call 206.284.4500 or go to <http://www.agcwa.com/public/education/index.asp>.
- The College Readiness Standards booklet and “Got Math?” brochure are provided courtesy of the Transition Math Project, which is managed by the Washington State Board for Community and Technical Colleges. For more information about this initiative, please call 206.870.5906. You can download both at the TMP website, <http://www.transitionalmathproject.org/>.

## **About the Authors**

### **Kathy Swan**

Kathy Swan was the first female drywall apprentice to join the carpenters union in Tacoma. She completed her training and became a journeyman in May 1984. Ms. Swan worked in the field on a variety of projects including heavy commercial concrete and metal stud /drywall. She was a foreman before teaching for the carpenters' apprenticeship program in 1991. Ms. Swan continued her education and completed her BS in workforce education. Ms. Swan has taught carpentry in high school, to apprentices and journey-level enhancement classes. She also traveled to Japan to teach. Her graduate studies include a certificate in human resource development from Chapman University, a Masters Degree in Education from Southern Illinois University, and a Doctorate in Workforce Education and Training is from Pennsylvania State University. Swan's research has been published. She has written and reviewed carpentry books and instructional guides. She remains an adjunct professor for both SIUC and PSU. She is currently an organizer and representative for the Pacific Northwest Regional Council of Carpenters'. She continues to work with area school districts presenting apprenticeship information and serving on advisory councils.

### **Heather Winfrey**

Heather Winfrey is the Director of the Construction Center of Excellence at Renton Technical College. With 14 years expertise in workforce and economic development programming and policy, Ms. Winfrey served as the Manager of Training and Education Partnerships at the Washington State Workforce Training and Education Coordinating Board; the Pierce County Program Manager for Apprenticeship and Non-Traditional Employment for Women and Men; and as Center Vocations Supervisor at the Cascades Job Corps Center in Sedro Woolley, Washington. In these roles, Ms. Winfrey has been a member of the Department of Labor's Western States Youth Dialog group; the national Work Readiness Credential project; and a proxy member to the Washington State Apprenticeship Training Council. She coordinated statewide and nationally-recognized workforce events, including the first statewide Youth Council conference; numerous statewide and regional construction workforce events; the Workforce Strategies conferences in 2002, 2003, 2004 and 2005; and the One-Stop/One-System national conference in 2002. She has worked with state leaders and elected officials to launch the state's dropout prevention and intervention initiative, and to increase articulations from high schools to construction training and apprenticeships.



# Acoustical Ceiling Lesson Plan

## Concept/principle to be demonstrated:

Acoustical or “suspended” ceilings are commonly used in commercial buildings, and must be designed to lay out ceiling sections equally. This lesson teaches students how to calculate for area based on specific dimensions. Understanding is demonstrated when students can solve a variety of construction-related problems.

## Lesson objectives/Evidence of Learning:

- Understands relationship of blueprints to acoustical ceiling layout
- Calculates the area and perimeter of rectangles for exact room specifications
- Evaluates the advantages and disadvantages of different strategies, representations, and tools for solving a problem
- Recognizes and justifies the need for an exact answer in a given situation
- Applies math to solve variety of construction problems
- Uses calculator to compute accurately

## How this math connects to construction jobs:

Balance and symmetry in a room is achieved by proper installation of components. This lesson will help students comprehend how a multi-step process is used to establish the number of full rows of tile and to determine border size from floor to ceiling.

- **Acoustical ceiling installers** use a multi-step process to determine the rows of full tiles and maximum border tile size.
- **Tile setters** install full tiles after determining the size of the border tiles.
- **Installers of pedestal floors** for computer wiring access make the largest border possible and full tiles needed to properly support all weight put on the floor.
- **Carpet layers** ensure balanced borders for inlays and intricate floor patterns by using similar layout processes.

## Teacher used training aids:

- 4'x2' ceiling tile, pieces of wall angle, main runners and cross tee

## Materials needed per student:

- Pencil
- Calculator with  $\sqrt{\quad}$  key & memory +/- functions
- *Acoustical Ceiling Worksheet*

## Terms:

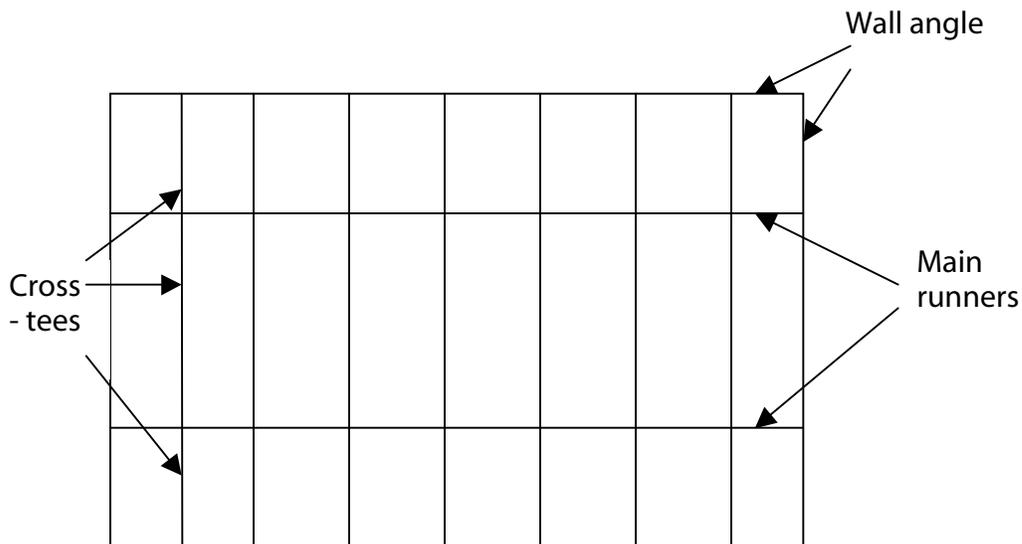
- **Main Runners:** Are shaped like an upside down T and come in 12' lengths. They extend from wall to wall and are the primary ceiling support. End splices allow for greater lengths. Slots 12" apart along the runner side allow cross tee to connect.
- **Cross tees:** available in 2' and 4' lengths. They connect between main tees using interlocking tabs.
- **Wall angle:** L-shaped pieces that fasten to the wall and support the ends of the main runners and cross tees.
- **Ceiling panels:** Are available in a variety of materials, surface finishes and designs.
- **Border:** Cut panels around the perimeter of the room. They should be greater than half of a tile to maintain balance and add visual appeal.

## Lesson Introduction:

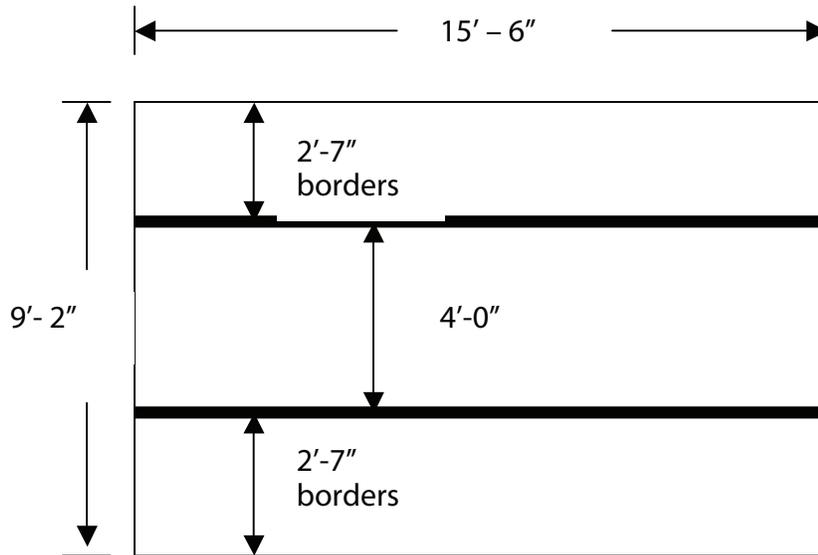
Suspended ceilings are widely used in commercial buildings. They provide space for lighting, pipes and ducts. A suspended ceiling also conserves energy by increasing the insulating value of the ceiling. Not only does the suspended ceiling cover pipes and ducts, the removable panels allow access to these items as well.

## Lesson Components:

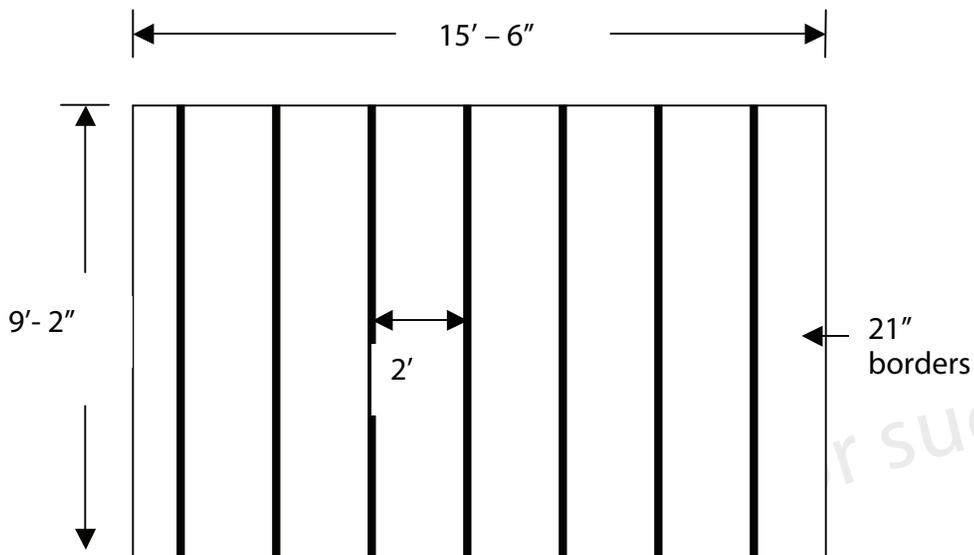
1. Typically, suspended ceiling panels are 2' by 2' or 2' by 4'. These panels are supported by a metal grid. The grid consisted of main runners and cross tees that rest on wall angles. The grid is suspended from hanger wires.
2. Draw on white board and explain the following components



- The height of the ceiling is provided from the working drawings or blueprints. Any of several leveling devices is used to establish a level mark around the room at the top of the wall angle (this prevents any marks from showing once the ceiling is installed).
- The installer must layout the ceiling and determines the length and location of the main runners. Typically the main runners span the length (long wall) of the room.
- Math: divide the room size (feet only) by the tile size. In this case we are using 4' x 2' tile.  $9' \div 4 = 2$  rows of main runners. Two rows equal a 4' space.



- The remaining 5'-2" or 62". The border size is  $62" \div 2 = 31"$  or 2'-7"
- Math: divide the 15'-6" wall by 2'.  $15 \div 2 = 7$  rows of cross tees with 3'-6" remaining.



8. Remaining  $3' - 6" = 42" \div 2 = 21"$  borders.
9. Hand out calculators and *Acoustical Ceiling Worksheet*, and encourage students to work in teams.

# Acoustical Ceiling Worksheet

Using the rooms dimensions below, complete the following table for 4' by 2' ceiling tiles:



Room size	Rows of mains	Main border	Cross tee border
1. 16'-2" x 19'-2"			
2. 52'-7' x 67'-3"			
3. 95'-4" x 113'-1"			
4. 35'-8" x 71'-4 1/2"			



# Acoustical Ceiling Worksheet

Using the rooms dimensions below, complete the following table for 4'by2' ceiling tiles:



Room size	Rows of mains	Main border	Cross tee border
1. 16'-2" x 19'-2"	4	25"	19"
2. 52'-7' x 67'-3"	13	27 1/2"	19 1/2"
3. 95'-4" x 113'-1"	23	20"	18 1/2"
4. 35'-8" x 71'-4 1/2"	8	22"	20 1/2"



# Cost Calculations Lesson Plan

## Concept/principle to be demonstrated:

In construction and many other industries, it is common to convert various units of measure to a common unit. Calculating how much building supplies will cost ensures materials are not wasted and material purchases are kept within budget; in life and at work, calculating costs is essential to good budgeting. Understanding is demonstrated by accurately calculating and converting information in a variety of construction-related problems.

## Lesson objectives/Evidence of Learning:

- Calculate the cost of lumber based on price per board foot, and linear foot price.
- Convert between price per linear foot, price per board foot and price per piece.
- Solve equations and equalities numerically, graphically, and algebraically
- Find the sum, difference, or product of two polynomials, then simplify the result
- Evaluate potential solutions for appropriateness, accuracy, and suitability to the context of the original problem.
- Create explanations that are appropriate to the needs of the audience and situation.
- Recognize and justify the need for an exact answer in a given situation.

## How this math connects to construction jobs:

In construction, how lumber is priced varies. For instance, suppliers may provide quotes for lumber by the linear foot, by the board foot, or by the piece. It is important to know which unit is used to determine the material price. This “smart shopping” method is important in many industries that are dependent on manufactured goods; it is also important to making smart choices in personal budgets. This lesson will help students learn how to convert between these three methods is done in construction.

- **Wholesale suppliers** typically sell framing lumber by the thousand board foot.
- **Retailers** may provide linear foot pricing.
- **Carpenters** compute the number of pieces needed to complete a project.
- **Estimators** use quotes from many sources and must compare the same units.

## Teacher used training aids:

- Several boards each equal to a board foot:
  - a) 1" x 12" x 12" long
  - b) 2" x 6" x 12" long
  - c) 1" x 6" x 24" long
  - d) 4" x 6" x 6" long
- Cans holding different volumes of the same product (i.e. 15 oz & 8 oz tomato sauce)

## Materials needed per student:

- Calculator with  $\sqrt{\quad}$  key & memory +/- functions
- *Cost Calculation Worksheet*

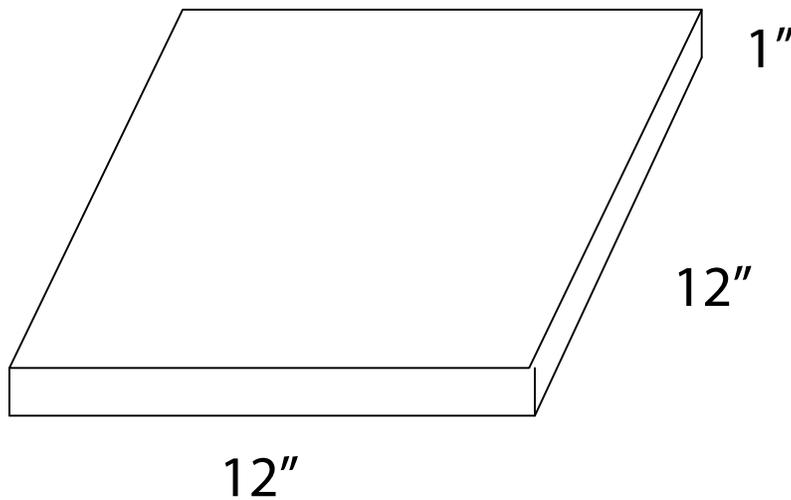
## Terms:

- **Board Foot (BF):** volume equal to  $1'' \times 12'' \times 12'' = 144 \text{ inches}^3$
- **MBF:** thousand (Roman numeral) board feet
- **Volume:** Thickness X Width X Length (T x W x L)

## Lesson Introduction:

Framing lumber is bought and sold three ways: by the piece; by the linear foot; or by the board foot. Linear pricing is simply the length of the material without regard to the width and thickness; therefore, the linear measurement of an 8'-0" 2 x 12 is 8'-0". Likewise, the linear measurement of an 8'-0" 2 x 6 is also 8'-0". At the retail level (such as large home improvement stores), framing lumber is typically sold by the piece, or by the linear foot.

A wholesale lumber company usually sells by the board foot. It is different from linear measurement because board footage is calculated using the board's volume. The below example shows a board that is 12 inches wide, 1 inch thick and 12 inches long.



The volume of one board foot is calculated as:  $12'' \times 12'' \times 1'' = 144 \text{ inches}^3$

**Hand out board samples for students to examine (start with 1 x 12)**

**Explain:**

Any piece of lumber equaling 144 cubic inches is one board foot. Framing lumber comes in many sizes. Each of these samples is equal to one Board Foot (BF).

## Lesson Components:

- Board footage is the relationship or ratio between the volume of the board and the volume of a board foot. Compare the volume of a linear foot of 2 x 4:

T = thickness in inches      W = width in inches      L = length in inches

$$\frac{2 \times 4}{\text{Board foot}} = \frac{T'' \times W'' \times L'}{T'' \times W'' \times L'} = \frac{2'' \times 4'' \times 12''}{1'' \times 12'' \times 12''} = \frac{96 \text{ cubic inches}}{144 \text{ cubic inches}} = .667 \text{ BF}$$

- To save a step of changing every length into inches, the formula can be shortened by expressing the length in feet:

$$\frac{T'' \times W'' \times L'}{1'' \times 12'' \times 1'} \quad \text{This formula can be further simplified by changing the denominator to 12''} \quad \frac{T'' \times W'' \times L'}{12'' \times 12'' \times 1'}$$

Simplified formula:  $\frac{T'' \times W'' \times L'}{12''}$

### Write these practice exercises on the board:

Calculate the board footage for one-foot lengths of the following:

2 x 6	$2 \times 6 \times 1 \div 12 = 1.0 \text{ BF}$ (calculator key strokes given)
2 x 8	$2 \times 8 \times 1 \div 12 = 1.33 \text{ BF}$
2 x 10	$2 \times 10 \times 1 \div 12 = 1.67 \text{ BF}$
2 x 6	$4 \times 6 \times 1 \div 12 = 2.0 \text{ BF}$

Now try with varying lengths. Replace the 1' length with the given length:

8'-0" length of 2 x 8	$2 \times 8 \times 8 \div 12 = 10.67 \text{ BF}$
12'-0" length 2 x 10	$2 \times 10 \times 12 \div 12 = 20 \text{ BF}$
14'-0" length 2 x 6	$2 \times 6 \times 14 \div 12 = 14 \text{ BF}$
10'-0" length 4 x 8	$4 \times 8 \times 10 \div 12 = 26.67 \text{ BF}$

- Lumber quotes and field notes are frequently expressed in construction shorthand. The first number (12) indicates the number of pieces; the second number (8) is the length of material; the final figures (4 x 8) indicate the size of the lumber.

12/8' 4 x 8 would be 12 pieces of 8' long 4 x 8's

$$\frac{\# \text{ pcs.} \times T'' \times W'' \times L'}{12''} \quad \text{Formula modified to include the number of pieces.}$$

How many total board feet are in these 12 pieces of lumber?

$$\frac{12 \times 4 \times 8 \times 8}{12} = 256 \text{ BF} \quad \text{Note: the 12's cancel out.}$$

### Write these practice exercises on the board:

Calculating the board footage for of the following quantities:

16/10' 2 x 4	$16 \times 2 \times 4 \times 10 \div 12 = 106.67 \text{ BF}$
12/12' 4 x 4	$12 \times 4 \times 4 \times 12 \div 12 = 192 \text{ BF}$
15/8' 2 x 8	$15 \times 2 \times 8 \times 8 \div 12 = 160 \text{ BF}$

4. Lumberyards deal in very large quantities of building materials. Their shipments arrive by the semi-truck or railroad car full. When giving quotes to customers, the quantity given is cost per thousand board feet. For example, 12 foot 2 x 4's might cost \$575.00 per thousand board feet. It is written 575M. M is the Roman numeral for one thousand. To determine the cost per board foot, simply move the decimal point three places to the left. In this example, the cost per board foot is \$0.575 or 57 ¢ per board foot.

After determining the number of board feet, multiply the cost per board foot to get the total cost.

**Write this example on the board:** What is the cost of 1/12' 2 x 4 @ 575M?

$$\frac{\# \times T \times W \times L}{12} = \text{BF} \times \$ = \text{Board Foot Cost}$$

$$\frac{1 \times 12 \times 2 \times 4}{12} = 8 \times .575 = \$4.60 \quad \text{A } 12' \text{ } 2 \times 4 \text{ equals } 8 \text{ BF and costs } \$4.60 \text{ each.}$$

**Write these practice exercises on the board:**

Calculating the board footage and the price for of the following quantities:

$$\begin{array}{ll} 10/12' \text{ } 2 \times 4 @ 480\text{M} & 10 \times 2 \times 4 \times 12 \div 12 = 80\text{BF} \times \$0.48 = \$38.40 \\ 5/16' \text{ } 4 \times 6 @ 570\text{M} & 5 \times 4 \times 6 \times 16 \div 12 = 160 \text{ BF} \times \$0.57 = \$ 91.20 \end{array}$$

5. Trim boards such as crown molding, casing and base trim are most often sold by the linear foot (LF). Pricing linear quantities is very easy. The lengths and number of pieces are added together and multiplied by the cost per foot.

**Write this example on the board:**

$$5/7' \text{ } 1 \times 6 @ \$1.20 \text{ per LF} \quad 5 \times 7 \times \$1.20 = \$42.00$$

6. Have students work together to determine:

What's a better deal for 12' 2x4's?

(a) \$360M, (b) \$0.22 LF or (c) \$2.56 each

Change all prices to the same unit for comparison. Using each price:

(a) \$360M = 36¢ BF  $12 \times 2 \times 4 \div 12 = 8 \text{ BF}$   $36¢ \times 8\text{BF} = \$2.88 \text{ each}$

(b) 12' board costs  $12 \times 22¢ = \$2.64 \text{ each}$

(c) \$2.56 each is best price!!!

7. Distribute *Cost Calculations Worksheet* and help students complete problems.

# Cost Calculations Worksheet

## Problem #1

Eight feet long 2 X 4's cost \$2.64 each. What is the cost per board foot?

## Problem #2

What is the price for the following lumber quantities?

a. 120/8' 2 x 4 @ 480M      \_\_\_\_\_ BF \$ \_\_\_\_\_

b. 4/16' 4 x 6 @ 590M      \_\_\_\_\_ BF \$ \_\_\_\_\_

c. 29/10' 2 x 12 @ 610M      \_\_\_\_\_ BF \$ \_\_\_\_\_

## Problem #3

1 x 8's are quoted at \$0.62 per linear foot. What is the price per board foot?

## Problem #4

One supplier quoted select 1 x 6 pine at \$955M. Another quoted \$0.65 per linear foot. Which one is less expensive; how much less?



## Cost Calculations Worksheet

### Problem #1

Eight feet long 2 X 4's cost \$2.64 each. What is the cost per board foot?

$$2 \times 4 \times 8 \div 12 = 5.33 \text{ BF} \qquad \$2.64 \div 5.33 = \$0.495 \text{ BF}$$

### Problem #2

What is the price for the following lumber quantities?

a. 120/8' 2 x 4 @ 480M                      **640 BF \$307.20**

b. 4/16' 4 x 6 @ 590M                      **128 BF \$75.52**

c. 29/10' 2 x 12 @ 610M                      **580 BF \$353.80**

### Problem #3

1 x 8's are quoted at \$0.62 per linear foot. What is the price per board foot?

$$1 \times 8 \div 12 = .67 \text{ BF} \qquad \$0.62 \div .67 = \$0.925$$

$$\$0.925 \times 1000 = \$925\text{M}$$

### Problem #4

One supplier quoted select 1 x 6 pine at \$955M. Another quoted \$0.65 per linear foot. Which one is less expensive; how much less?

a.  $\$955 \div 100 = .955 \text{ BF}$

b.  $1 \times 6 \div 12 = .5 \text{ BF} \qquad \$0.65 \div 0.5 = \$1.30 \text{ BF}$

**\$955M is less expensive by \$0.345BF or 17.25¢/LF**



# Cylinder Volume Lesson Plan

## Concept/principle to be demonstrated:

This lesson will demonstrate the relationship between the diameter of a circle and its circumference, and impact on area. The simplest way to demonstrated understanding is by applying the formulas ( $A=\pi r^2$  and  $V = Bh$ ) to solve additional construction related problems using a calculator.

## Lesson objectives/Evidence of Learning:

- Distinguishes between area and perimeter of 2-D figures, surface area, and volume of 3-D figures
- Calculates the volume and surface area of spheres, right rectangular prisms, and right circular cylinders
- Applies formula to solve variety of construction problems
- Uses calculator to compute accurately

## How this math connects to construction jobs:

Area of circles and volume of a cylinder is used extensively by plumbers and carpenters in construction. This lesson will help students comprehend how areas of circles, and volume of cylinders, are used to determine capacity in everything from indoor pipes to culvert drains.

- **Carpenters** use volume to determine the amount of concrete needed in foundations.
- **Plumbers** use formulas to select the correct pipe size for the required flow.
- **Heating Ventilation and Air Conditioning (HVAC) installers** use volume formulas to ensure correct air movement to and from rooms.
- **Underwater welders** use volume of a cylinder to determine the safe length of time submerged.

## Teacher used training aids:

- 10" diameter 3/4" plywood circle (optional)
- 60" cloth tape (optional)
- 2" diameter PVC pipe 12" long w/ end cap
- 4" diameter PVC pipe 12" long w/ end cap
- Approximately 4 cups (1 quart) white sand
- 1 quart measuring cup with spout & handle
- Circle Formulas sheet for each student

## Materials needed per student:

- Pencil
- Calculator with  $\sqrt{\quad}$  key & memory +/- functions
- *Circle and Cylinder Worksheets*

## Terms:

- **Area:** The number of square units that covers a shape or figure;  $A = \pi r^2$ .
- **Base:** The bottom of a plane figure or three-dimensional figure.
- **Circle:** The set of points in a plane that are a fixed distance from a given point, called the center.
- **Circumference:** The distance around a circle;  $C = \pi d$
- **Cylinder:** A three-dimensional figure having two parallel bases that are equal circles.
- **Diameter:** The line segment joining two points on a circle and passing through the center of the circle.
- **Pi ( $\pi$ ):** The ratio of the circumference of a circle to its diameter;  $\pi = 3.141593$
- **Radius:** The distance from the center to a point on a circle; the line segment from the center to a point on a circle.
- **Volume:** A measurement of space, or capacity. It is the product of the base area times the height of the cylinder;  $V = Bh$

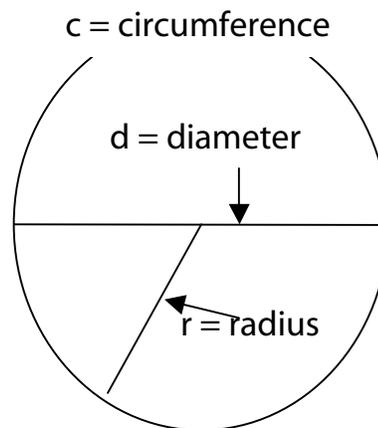
## Lesson Introduction:

The perimeter of a circle is called the circumference. The distance to the center of the circle is the radius. The distance across the circle is the diameter. The diameter is twice the radius.

Formulas for the circumference and area of a circle involve  $\pi$  (pi).  $\pi$  represents the ratio of the circumference of any circle to its diameter, and it is always the same regardless of the size of the circle.  $\pi$  is approximately  $22/7$ , or  $3.14$ . Many calculators have a  $\pi$  key because it is a value that is used so frequently. The circumference of a circle is found by the formula:  $C = \pi 2r$  or  $C = \pi d$ . The area of a circle is found by the formula:  $A = \pi r^2$ .

## Lesson Components:

1. Draw on white board and explain:



2. Use plywood circle prop to show relationship of the diameter (10") and the circumference ( $10\pi=31.415$  or  $31\frac{7}{16}$ "). Have students use calculator to change decimal to fraction.
3. Have students use calculator to determine the area:  $\pi r^2 = \pi(5 \text{ in.})^2$ . Remind students to square the radius before multiplying by  $\pi$ .  $\pi(25 \text{ in.}^2) = 78.5 \text{ in.}^2$
4. The cylinder has parallel and equal sized circles as bases. To find the volume of a cylinder, multiple the area of a base by the height of the cylinder:

$$V = Bh \quad V = \text{volume} \quad B = \text{area of a base} = (\pi r^2) \quad h = \text{height of cylinder}$$

5. Since the base of a cylinder is always a circle, substitute the formula for the area of a circle into the formula for the volume (ask teacher which format to use)

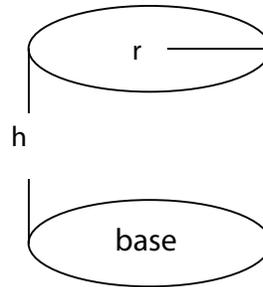
$$V = \pi r^2 h$$

$$V = \pi \times r^2 \times h$$

$$V = \pi \cdot r^2 \cdot h$$

$$V = \pi(r^2)(h)$$

6. Draw on white board and explain:

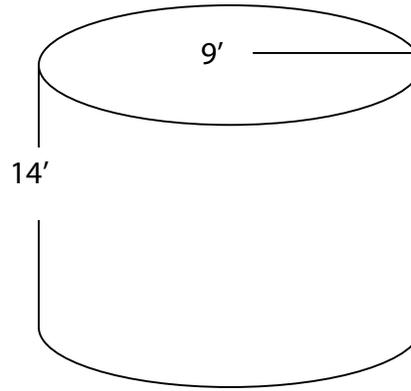


7. **Demonstration** for determining volume of a cylinder:

- a. Show the 2" diameter PVC pipe.
- b. Measure sand in cup.
- c. Ask the students to guess what the volume will be.
- d. Pour sand into cylinder. Determine how many ml or ounces it holds. (Note: metric is another class.)
- e. Ask the students how much more the 4" cylinder will hold. (Most students will guess twice as much.)
- f. Pour the sand from the 2" into the 4" cylinder.
- g. Show the students how full the larger cylinder is. Ask why it isn't half full.
  1. Show mathematically why it is 1/4
  2. On board write the volume formula for each cylinder.
  3.  $V = \pi r^2 h$        $V = \pi(1^2)(12)$       and       $V = \pi(2^2)(12)$
  4. Insert radius values  $V = \pi(1)(12)$       and       $V = \pi(4)(12)$
  5. Radius of the small cylinder is 1.  $1^2$  is still 1. Radius of the large cylinder is 2.  $2^2$  is 4.
  6. Erase or strikeover  $\pi$  and the 12" height of both formulas because they are constants.
  7. The ratio is 1:4. (This is very cool stuff to see.)
  8. Hand out **Circle and Cylinder Worksheets**

8. Find the volume of this cylinder.  $r=9'$  and  $h=14'$

- a.  $V = 3.14 (9' \times 9') 14 \text{ ft}$
- b.  $V = 3.14 (81 \text{ ft}^2) 14 \text{ ft}$
- c.  $V = 3.14 (1134 \text{ ft}^3)$
- d.  $V = 3560.76 \text{ ft}^3$



9. Students can work individually or in teams to solve the *Circle and Cylinder Worksheets*.

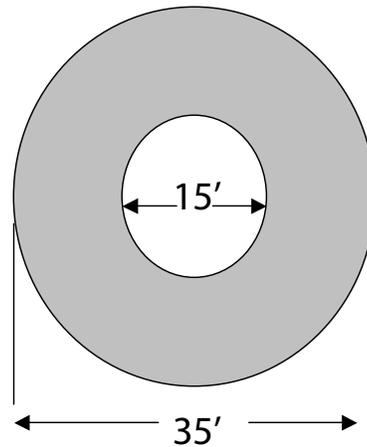
# Circle and Cylinder Worksheets

## Problem #1

Find the area of a circle with a radius of 15 inches.

## Problem #2

Find the area of the ring (the shaded area). Hint: subtract area of the smaller circle from the larger circle area.



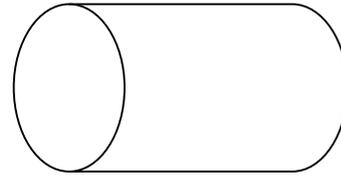
## Problem #3

Carpenters are going to use flexible board to form the circles in Problem #2. What is the circumference of each circle?



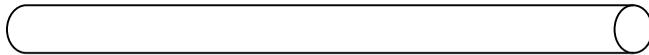
**Problem #4**

What is the volume of a cylindrical drum used for storing kerosene that has a diameter of 2 ft. 6 in. and is 4 ft. long?  
(Round to the nearest cubic foot.)



**Problem #5**

Water pipes with an outside diameter of 1 in. are to be insulated with a thin sheet of foam. Assuming no waste or overlap, how many square inches of foam is needed to cover pipes that are 40 feet long?



**Problem #6**

A drilled well has a diameter 3 ft. The water standing in the well is 200 ft. deep. How many gallons of water are in the well? ( $1 \text{ ft}^3 = 7.5 \text{ gal}$ )



## Circle and Cylinder Worksheets

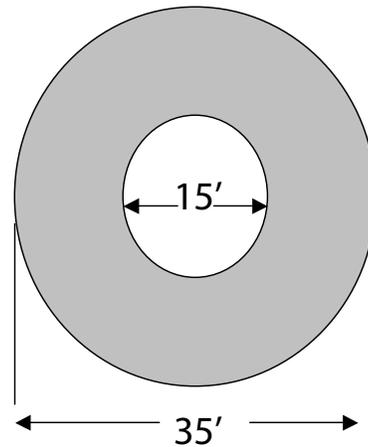
### Problem #1

Find the area of a circle with a radius of 15 inches.

$$(7.5 \text{ in}) \pi = 176.71 \text{ in}^2$$

### Problem #2

Find the area of the ring (the shaded area). Hint: subtract area of the smaller circle from the larger circle area.



$$(17.5 \text{ ft})^2 \pi = 962.1127 \text{ ft}^2$$

$$(7.5 \text{ ft})^2 \pi = 176.7146 \text{ ft}^2$$

$$962.1127 \text{ ft}^2 - 176.7146 \text{ ft}^2 = 785.3981 \text{ ft}^2$$

### Problem #3

Carpenters are going to use flexible board to form the circles in Problem #2. What is the circumference of each circle?

$$15 \pi = 47.1239 \text{ ft.}$$

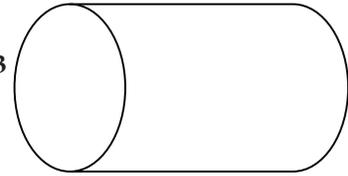
$$35 \pi = 109.9557 \text{ ft.}$$



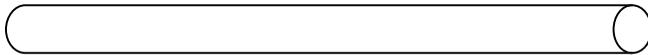
**Problem #4****KEY**

What is the volume of a cylindrical drum used for storing kerosene that has a diameter of 2 ft. 6 in. and is 4 ft. long?  
(Round to the nearest cubic foot.)

$$(1.25 \text{ ft})^2 \pi \times 4\text{ft.} = 19.63495 \text{ ft}^3 = 20 \text{ ft}^3$$

**Problem #5**

Water pipes with an outside diameter of 1 in. are to be insulated with a thin sheet of foam. Assuming no waste or overlap, how many square inches of foam is needed to cover pipes that are 40 feet long?



$$1 \text{ in} \times \pi \times 480 \text{ in} = 1184.353 \text{ in}^2$$

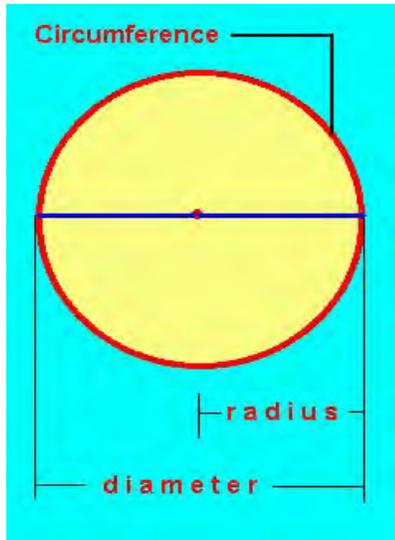
**Problem #6**

A drilled well has a diameter 3 ft. The water standing in the well is 200 ft. deep. How many gallons of water are in the well? ( $1 \text{ ft}^3 = 7.5 \text{ gal}$ )

$$(1.5 \text{ ft})^2 \pi \times 200\text{ft.} = 1413.717 \text{ ft}^3 \times 7.5 \text{ gal/ft}^3 = 10602.88 \text{ gal.}$$



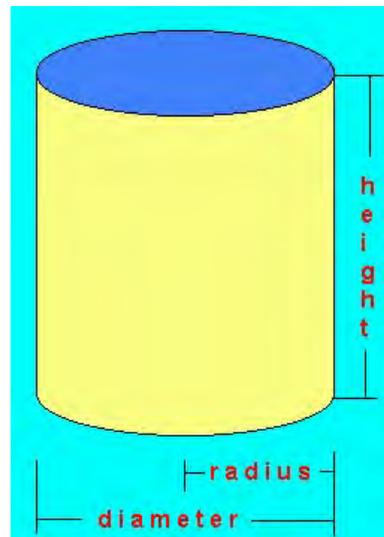
## Circle Formulas



$$\text{Circumference} = 2 \cdot \pi \cdot \text{radius} = \pi \cdot \text{diameter}$$

$$\text{Circle Area} = \pi \cdot r^2 = \frac{1}{4} \cdot \pi \cdot d^2$$

## Cylinder Formula



$$\text{Volume} = \pi \cdot r^2 \cdot \text{height} = \frac{1}{4} \cdot \pi \cdot d^2 \cdot \text{height}$$



# Electricity and Ohm's Law Lesson Plan

## Concept/principle to be demonstrated:

This lesson plan shows students how to manipulate a formula to solve algebraic equations, using Ohm's Law. Knowing how to manipulate a formula by isolating the unknown is as easy as covering the symbol and reading the remaining formula. Students will be able to demonstrate understanding by applying the formula  $E=IxR$  to solve problems using a calculator.

## Lesson objectives/Evidence of Learning:

- Comprehends concept of Ohm's Law
- Knows what it means to have a solution to an equation
- Uses properties of equality to solve an equation through a series of equivalent equations
- Solves equations for a particular variable
- Applies formula to solve variety of construction problems
- Uses calculator to compute accurately

## How this math connects to construction jobs:

Ohm's Law shows the relationship between ohms, watts, volts and amps. Manipulating the formulas to solve for an unknown when any two are given illustrates this relationship. This lesson will help students comprehend how Ohm's Law is used daily by electricians.

- Electricians use the formulas to install the correct gauge of wire to carry the load.
- Millwrights use the formulas when installing machinery and equipment.
- All construction workers must verify that their extension cords are adequate for the power tools being used.

## Teacher used training aids:

- 9 volt battery
- 18" lengths of insulated wire with clips
- 10 ohm 1/4 watt resistor
- 220 ohm 1/2 watt resistor

## Additional online aids:

- <http://jersey.uoregon.edu/vlab/Voltage/>
- <http://micro.magnet.fsu.edu/electromag/java/ohmslaw/>

## Materials needed per student:

- Pencil
- Calculator with  $\sqrt{\quad}$  key & memory +/- functions
- **Electricity and Ohm's Law Worksheets**
- **Electricity and Ohm's Law Example Problem** handout
- **Formulas, Equations, and Laws** handout and two **Ohm's Law** handouts

## Terms:

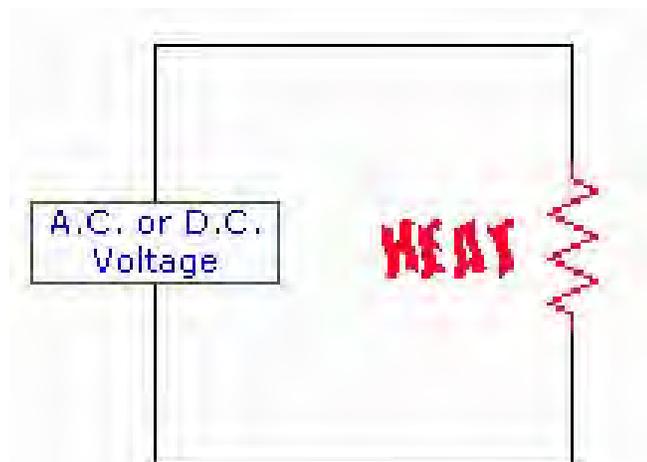
- **( I ) Current** is what flows on a wire or conductor like water flowing down a river. Current flows from points of high voltage to points of low voltage on the surface of a conductor. Current is measured in (A) amperes or amps.
- **( E ) Voltage** is the difference in electrical potential between two points in a circuit. It's the push or pressure behind current flow through a circuit, and is measured in (E) volts.
- **( R ) Resistance** determines how much current will flow through a component. Resistors are used to control voltage and current levels. A very high resistance allows a small amount of current to flow. A very low resistance allows a large amount of current to flow. Resistance is measured in ohms.
- **( P ) Power** is the amount of current times the voltage level at a given point measured in wattage or watts.

## Lesson Introduction:

Ohms law, sometimes more correctly called Ohm's Law, named after Mr. Georg Ohm, mathematician and physicist born 1789 and died 1854 in Bavaria, defines the relationship between power, voltage, current and resistance. These basic electrical units apply to direct current, or alternating current. Ohm's Law is the foundation of electronics and electricity. These formulae are **very easy to learn** and are used extensively by electricians. Without a thorough understanding of "Ohm's Law" an electrician would either design or troubleshoot even the simplest of electronic or electrical circuits. Ohm established in the late 1820's that if a voltage was applied to a resistance then "current would flow and then **power** would be consumed".

## Lesson Components:

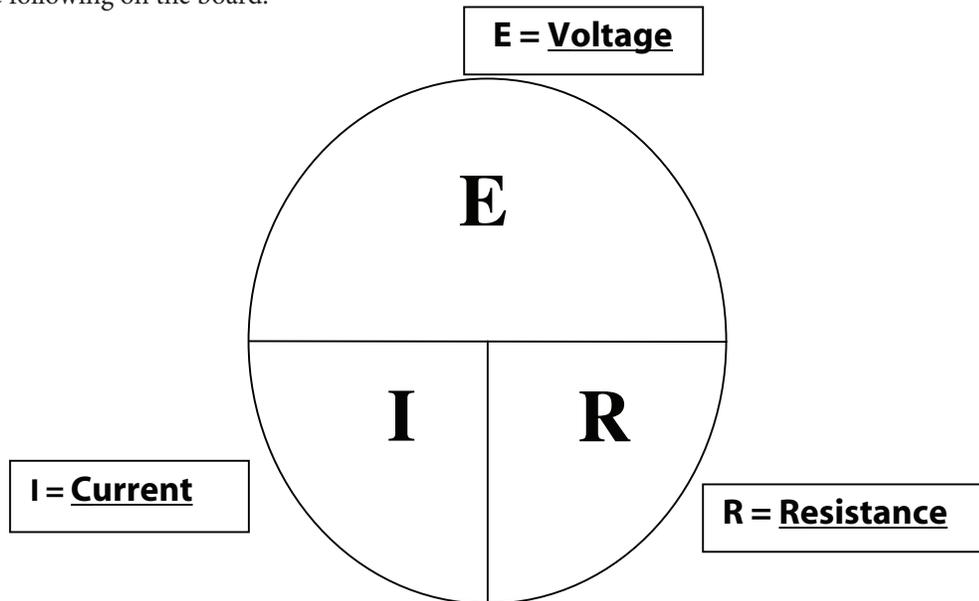
1. Draw on white board and explain:



## Ohm's Law power consumption through a resistance

Some practical every day examples of this basic rule are: base board heaters, electric frying pans, toasters and electric light bulbs. The heater consumes power producing heat for warmth, the frying pan consumes power producing heat for general cooking, the toaster consumes power producing heat for cooking toast, and the electric light bulb consumes power producing heat and more important light. A further example is an electric hot water system. All are examples of Ohm's Law at its most basic.

2. Current is directly proportional to voltage. If voltage is increased by a given percentage, current increase by the same percentage. If the voltage is decreased by a given percentage, current decreases by the same percentage.
3. Current is inversely proportional to resistance. An increase in resistance results in a decrease in current. A decrease in resistance results in an increase in current. It is important to note that resistance cannot be changed by changing voltage or current. Resistance in a circuit is a physical constant. Resistance in a circuit can only be changed by changing components or resistors rated at more or fewer ohms.
4. Draw the following on the board:



**Show students how easy the formula is to use by covering the desired value and solving the equation**

5. For the following examples, voltage is E with an assigned a value of 12V, Current is I and is 2 amperes while resistance is R of 6 ohms. Note that “x” means multiply by, while “/” means divide by.
  - a. For voltage [E = I x R] (COVER “E” WITH HAND)
    1. E (volts) = I (current) x R (resistance) OR
    2. 12 volts = 2 amperes x 6 ohms
  - b. For current [I = E / R] (COVER “I” WITH HAND)
    1. I (current) = E (volts) / R (resistance) OR
    2. 2 amperes = 12 volts / 6 ohms
  - c. For resistance [R = E / I] (COVER “R” WITH HAND)
    1. R (resistance) = E (volts) / I (current) OR
    2. 6 ohms = 12 volts / 2 amperes

Another way to look at the relationships between (P) power, (E) voltage, (I) current, and (R) resistance is: One ohm is the resistance value through which one volt will maintain a current of one ampere.

$$E = I \times R$$

Voltage = current x resistance

Volts = amps x ohms

$$V = A \times$$

Ohm's Law with letter symbols

Ohm's Law formula with electrical quantities

Ohm's Law formula with units of measure

Ohm's Law formula with unit symbols

6. **Demonstration** for determining amps (current):

- a. Show a 9 volt battery, a 10 ohm resistor and two wires with clips.
- b. Ask the students what the current (amps) will be.
- c. Correct answer is: 9 volts (E) / 10 ohms = 0.9 amps
- d. Ask the students if the circuit will work.
- e. Connect the circuit.
- f. Wait a minute for the resistor to smoke and smell.
- g. Disconnect and ask what happened.
- h. Show students the package (1/4 watt)
- i. Watts (P) are power.
- j. Reconnect circuit using 220 ohm resistor. Wait and watch.

**For power:**

$$P = E^2 / R \quad \text{OR} \quad \text{Power} = 24 \text{ watts} = 122 \text{ volts} / 6 \text{ ohms}$$

$$\text{Also} \quad P = I^2 \times R \quad \text{OR} \quad \text{Power} = 24 \text{ watts} = 22 \text{ amperes} \times 6 \text{ ohms}$$

$$\text{Also} \quad P = E \times I \quad \text{OR} \quad \text{Power} = 24 \text{ watts} = 12 \text{ volts} \times 2 \text{ amperes}$$

That's all you need for Ohm's Law - remember just two formulas:

- For voltage:  $E = I \times R$
- For power:  $P = E^2 / R$

7. Why does this work?

8. Review relationship of the formula for voltage, resistance and current

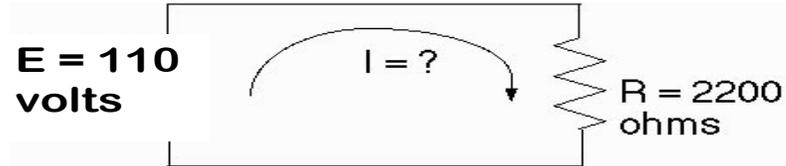
- a.  $E = I \times R$
- b.  $R = E / I$
- c.  $I = E / R$

9. Hand out calculators, worksheet and examples pages, having students complete worksheet in teams.

# Electricity and Ohm's Law Worksheets

## Problem #1

A 110 volt wall outlet supplies power to a strobe light with a resistance of 2200 ohms. How much current is flowing through the strobe light?



Choose your answer below

1. 0.5 amps
2. 2.0 amps
3. 0.05 amps
4. 1.0 amps

## Problem #2

A CD player with a resistance of 40 ohms has a current of 0.1 amps flowing through it. Sketch the circuit diagram and calculate how many volts supply the CD player.

Choose your answer below

1. 0.0025 volts
2. 4.0 volts
3. 10.0 volts
4. 400.0 volts

## Problem #3

A 120-volt power source supplies a lamp with a resistance of 192 ohms. What is the current flow of the circuit?



**Problem #4**

What is the resistance of the circuit conductors when the conductor voltage drop is 3 volts and the current flowing through the conductors is 100 amperes?

**Problem #5**

Given:  $I = 15\text{A}$ ,  $R = 2$  , find  $E$

**Problem #6**

Given:  $E = 250\text{V}$ ,  $R = 5$  , find  $I$

**Problem #7**

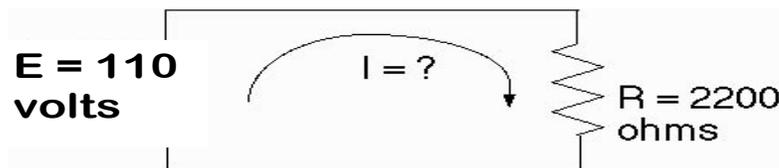
Given:  $E = 100\text{V}$ ,  $I = 0.01\text{A}$ , find  $R$



## Electricity and Ohm's Law Worksheets

### Problem #1

A 110 volt wall outlet supplies power to a strobe light with a resistance of 2200 ohms. How much current is flowing through the strobe light?



$$E = I \times R \quad 110 = I \times 2200$$

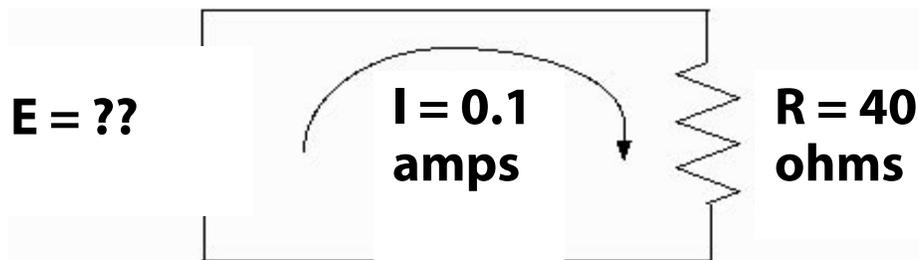
$$110/2200 = I \quad I = 0.05 \text{ amps}$$

Choose your answer below

1. 0.5 amps
2. 2.0 amps
- ③. 0.05 amps
4. 1.0 amps

### Problem #2

A CD player with a resistance of 40 ohms has a current of 0.1 amps flowing through it. Sketch the circuit diagram and calculate how many volts supply the CD player.



Choose your answer below

1. 0.0025 volts
- ②. 4.0 volts
3. 10.0 volts
4. 400.0 volts

$$E = I \times R \quad E = 0.1 \times 40 \quad E = 4.0 \text{ volts}$$

### Problem #3

A 120-volt power source supplies a lamp with a resistance of 192 ohms. What is the current flow of the circuit?

$$E = I \times R \quad E = 120 \text{ volts} \quad R = 192$$

Replace known values in sentence:  $120 = I \times 192$

Divide both sides by 192:  $120/192 = I \quad I = 0.625$

Check answer:  $120 = 0.625 \times 192$



**Problem #4****KEY**

What is the resistance of the circuit conductors when the conductor voltage drop is 3 volts and the current flowing through the conductors is 100 amperes?

$$E = I \times R \quad E = 3 \text{ volts} \quad I = 100 \text{ amps}$$

$$\text{Replace known values in sentence:} \quad 3 = 100 \times R$$

$$\text{Divide both sides by 100: } 3/100 = R \quad R = 0.03 \text{ Ohms}$$

$$\text{Check answer:} \quad 3 = 100 \times 0.03$$

**Problem #5**

Given:  $I = 15\text{A}$ ,  $R = 2$ , find  $E$

$$E = I \times R$$

$$\text{Replace known values in sentence:} \quad E = 15 \times 2$$

$$\text{Complete multiplication: } E = 30$$

$$\text{Check answer:} \quad 30 = 15 \times 2$$

**Problem #6**

Given:  $E = 250\text{V}$ ,  $R = 5$ , find  $I$

$$E = I \times R$$

$$\text{Replace known values in sentence:} \quad 250 = I \times 5$$

$$\text{Divide both sides by 5: } 250/5 = I \quad I = 50 \text{ amps}$$

$$\text{Check answer:} \quad 250 = 50 \times 5$$

**Problem #7**

Given:  $E = 100\text{V}$ ,  $I = 0.01\text{A}$ , find  $R$

$$E = I \times R$$

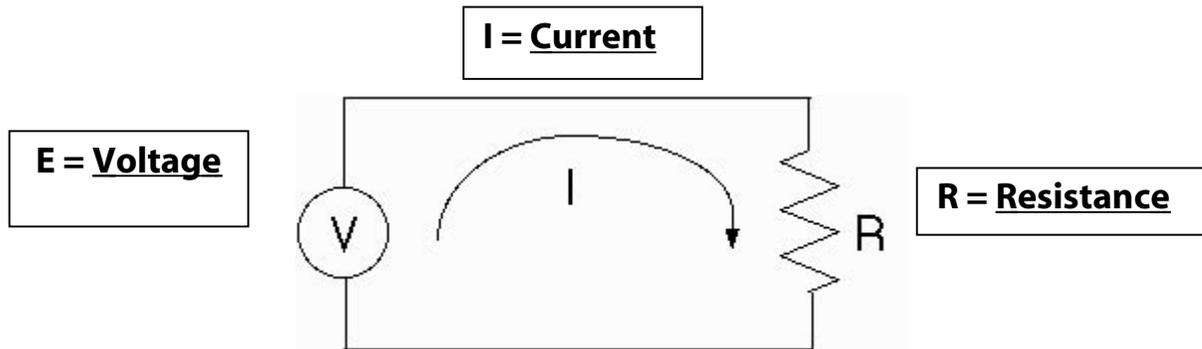
$$\text{Replace known values in sentence:} \quad 100 = 0.01 \times R$$

$$\text{Divide both sides by 0.01: } 100/0.01 = R \quad R = 10,000 \text{ Ohms}$$

$$\text{Check answer:} \quad 100 = 0.01 \times 10,000$$

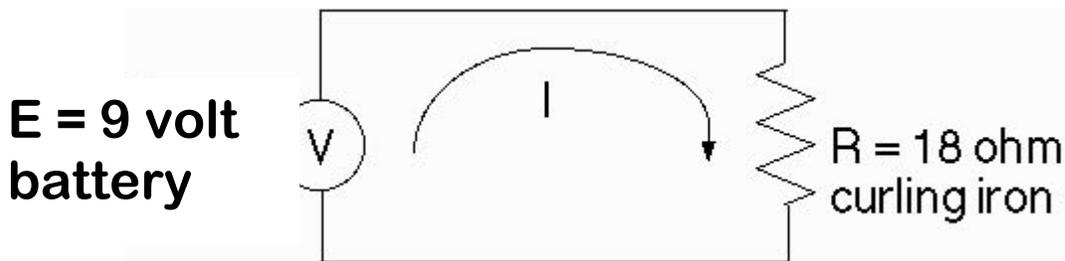


## Electricity and Ohm's Law Example Problem



### Example Problem:

A nine volt battery supplies power to a cordless curling iron with a resistance of 18 ohms. How much current is flowing through the curling iron?



### Solution: OHM'S LAW $E = I \times R$

1.) Since E (Voltage) and R (Resistance) are known, solve for I (Current) by dividing both sides of the equation by R.	$\frac{E}{R} = \frac{I \times R}{R}$
2.) The R's on the right hand side of the equation cancel. This will isolate I.	$\frac{E}{R} = I$
3.) I is then left in terms of E and R.	$I = \frac{E}{R}$
4.) Substitute in the values for E (Voltage) and R (Resistance).	$\frac{9}{18} = I$
5.) Solve for I (Current).	$I = 0.5 \text{ amps}$



## FORMULAS, EQUATIONS & LAWS

Symbolic:

$$E = \text{VOLTS} \sim \text{or} \sim (V = \text{VOLTS})$$

$$P = \text{WATTS} \sim \text{or} \sim (W = \text{WATTS})$$

$$R = \text{OHMS} \sim \text{or} \sim (R = \text{RESISTANCE})$$

$$I = \text{AMPERES} \sim \text{or} \sim (A = \text{AMPERES})$$

$$\text{HP} = \text{HORSEPOWER}$$

$$\text{PF} = \text{POWER FACTOR}$$

$$\text{kW} = \text{KILOWATTS}$$

$$\text{kWh} = \text{KILOWATT HOUR}$$

$$\text{VA} = \text{VOLT-AMPERES}$$

$$\text{kVA} = \text{KILOVOLT-AMPERES}$$

$$C = \text{CAPACITANCE}$$

$$\text{EFF} = \text{EFFICIENCY (expressed as a decimal)}$$

### DIRECT CURRENT

$$\text{AMPS} = \text{WATTS} \div \text{VOLTS} \quad I = P \div E \quad A = W \div V$$

$$\text{WATTS} = \text{VOLTS} \times \text{AMPS} \quad P = E \times I \quad W = V \times A$$

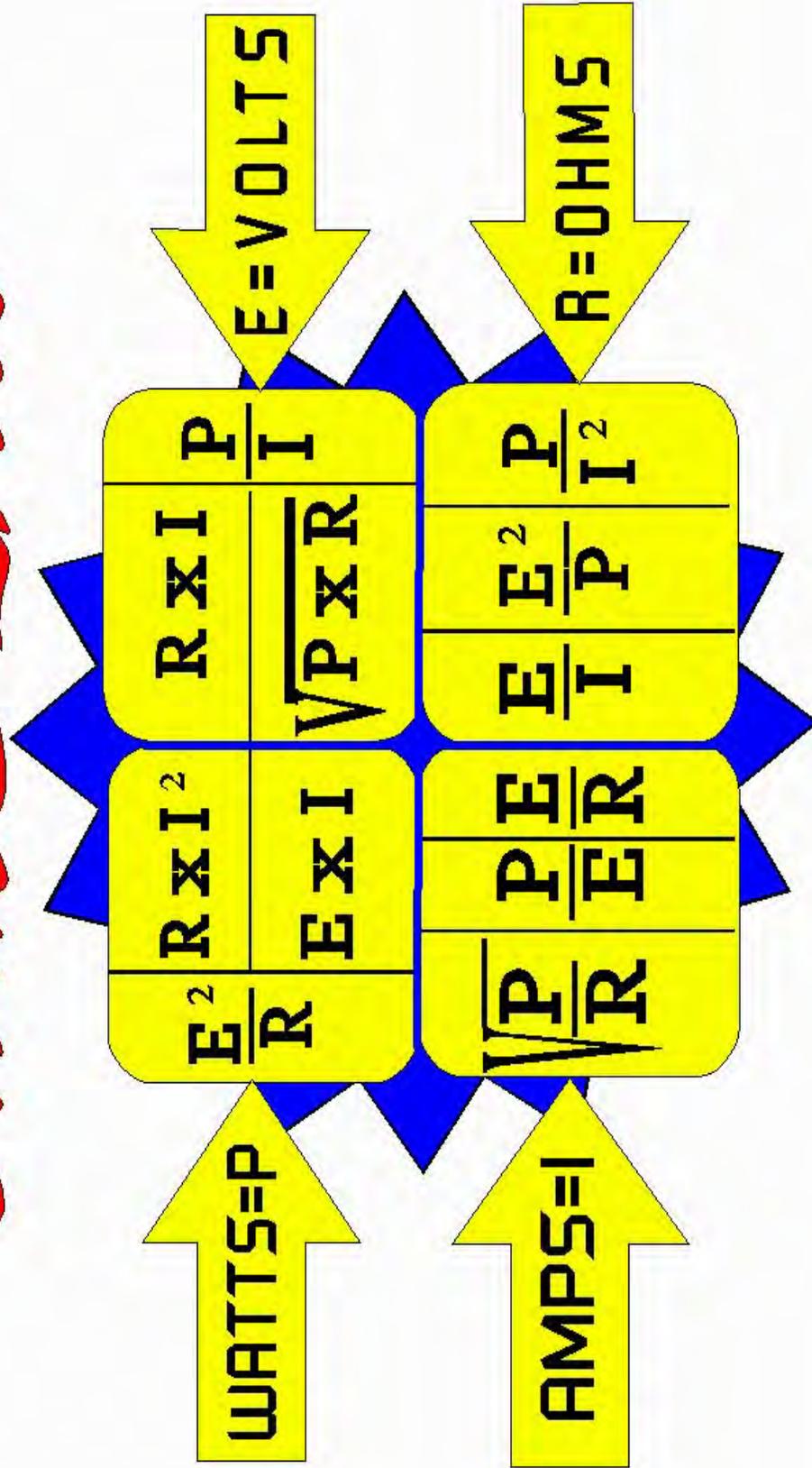
$$\text{VOLTS} = \text{WATTS} \div \text{AMPS} \quad E = P \div I \quad V = W \div A$$

$$\text{HORSEPOWER} = (V \times A \times \text{EFF}) \div 746$$

$$\text{EFFICIENCY} = (746 \times \text{HP}) \div (V \times A)$$

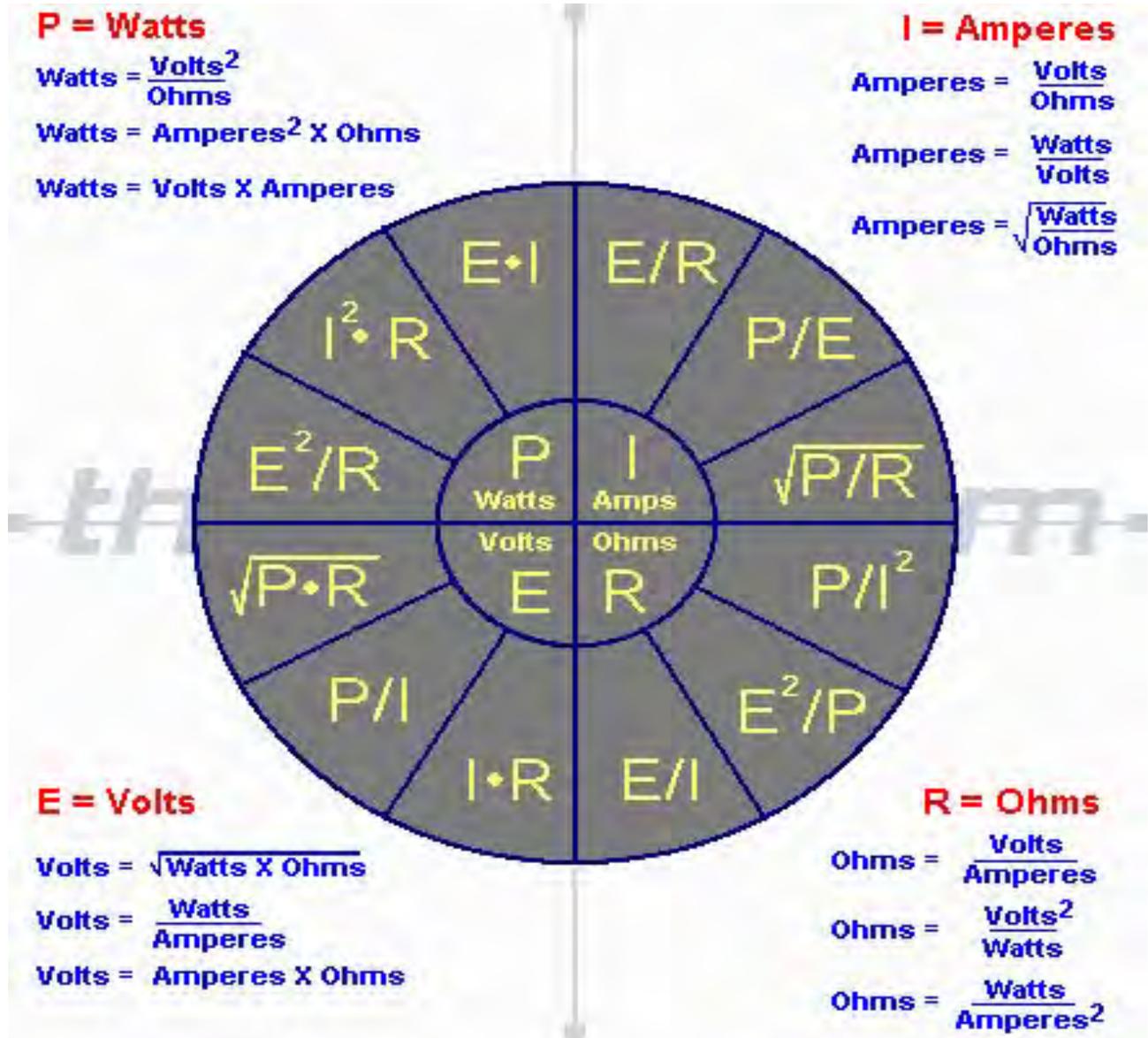


# OHM'S LAW





# Ohm's Law





# Octagon Lesson Plan

## Concept/principle to be demonstrated:

The isosceles right triangle provides a math constant used to solve octagon problems. Octagons can be drawn from either a circle or square. The unique properties of the isosceles right triangle provide the mathematical answer when various dimensions are given. The simplest way to demonstrated understanding is by applying the constant to solve additional construction related problems using a calculator.

## Lesson objectives/Evidence of Learning:

- Comprehends concept of octagon layout
- Uses physical, symbolic, and technological models to explore conjectures
- Uses basic 2-D figures such as circles and polygons to represent objects essential to a situatio
- Introduces a coordinate system when useful for describing the position of objects in a situation
- Calculates the area and perimeter of circles, triangles, quadrilaterals, and regular polygons
- Applies formula to solve variety of construction problems
- Uses calculator to compute accurately

## How this math connects to construction jobs:

Octagons provide a variety of special effects or features to a building being constructed. Sometimes only a few sides of the octagon are used. This lesson will help students comprehend how octagons are used by many trades.

- **Carpenters** use three sides of an octagon to build walls for a bay window.
- Gazebos are typically made in an octagon shape providing challenges to **framers and roofers**.
- **Metal stud framers** use formulas to build octagon shaped rooms and openings in walls.
- **Sheet metal workers** use octagon air diffusers.

## Teacher used training aids:

- 8 1/2" x 11" paper printed with 7" square (Or use marked plywood square)
- Length of tie wire (or other soft wire) bent to fit isosceles triangle in corner of square
- Additional applications are found on 45°-45°-90° Triangles handout if needed.

## Materials needed per student:

- 8 1/2" x 11" paper printed with 7" square
- 6-8" piece of string
- Pencil and 6" straight edge (any book will work)
- Calculator with  $\sqrt{\quad}$  key & memory +/- functions
- **Octagon Worksheet**
- **Octagon Inscribed in a Square** handout
- **Special Right Triangles** handouts

## Terms:

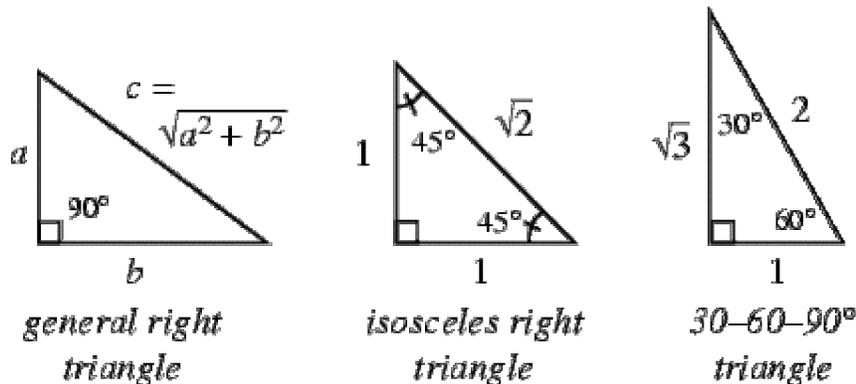
- **Hypotenuse:** The side opposite the right angle in a right triangle.
- **Isosceles right triangle:** A triangle with at least two equal sides.
- **Octagon:** An eight sided shape with all side and angles equal.
- **Right triangle:** A triangle that contains a right angle (90 degree measurement)
- **Square (?):** A quadrilateral with four equal sides and four 90 degree angles.
- **Square root ( $\sqrt{\quad}$ ):** The square root of x is the number that, when multiplied by itself, gives the number, x.

## Lesson Introduction:

The octagon is probably the most used geometrical figure in building. Often in layout work one of several formulas is used to find the length of a side.

## Lesson Components:

1. Right triangles are special:
  - a. Used extensively in construction.
  - b. 45°- 45°-90° and 30°- 60°- 90° have unique qualities.
2. Draw on white board and explain:

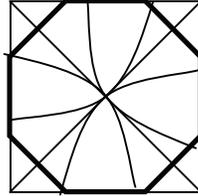


3. Isosceles right triangle has legs of the same length and 45° angles. An adaptation to the Pythagorean Theorem is useful.
  - a.  $a^2 + b^2 = c^2$
  - b. The ratio of the legs to the hypotenuse is 1:  $\sqrt{2}$  because:
    - c.  $1^2 + 1^2 = c^2$   $1 + 1 = 2$   $c^2 = 2$   $c = \sqrt{2}$
    - d. a and b are equal therefore:
    - e.  $2a^2 = c^2$
    - f.  $(2)(1)^2 = (2)(1) = 2$  again  $c^2 = 2$  and  $c = \sqrt{2}$
4. Many times in construction, an octagon is drawn based on the dimensions of another shape. It may be inside (inscribed) either a square or circle. Other times the octagon is drawn outside a circle (called either described or super scribed).

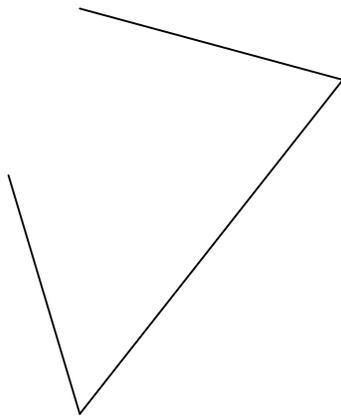
5. Today's activities will be based inside a square.

6. **Demonstration** using isosceles right triangle to lay out an octagon:

- a) Craft workers lay out octagons by making a series of arches and lines.
- b) Draw square on board and add diagonal lines on square or use paper/plywood model.
- c) Swing arches to lay out octagon.
- d) Connect octagon sides as shown:



- e) Have students fold diagonals of printed 7" square or use straight edge to mark.
  - i. Tie a loop in the string to fit pencil
  - ii. Students swing arches holding string in corner with finger
  - iii. Use straight edge to connect octagon sides
- f) Show students the isosceles right triangle formed in each corner
- g) Tell students that applying the special formulas for isosceles right triangles
- h) Review octagon formulas.(pass out Octagon inscribed in a square)
  - i. Side of square  $\div 2.414$  = length of octagon side
  - ii. Side of square  $\div 3.414$  = distance from corner to octagon side
  - iii. Side of square  $\times$  square root of 2 – side of square = side of octagon
- i) Ask students why these formulas work
  - i.  $\sqrt{2}=1.414$
  - i. Each of these formulas uses  $\sqrt{2}$
  - iii.  $1.414 + 1 = 2.414$
  - iv.  $1 + 1 + 1.414 = 3.414$
- j) Bend wire to fit a triangle into a corner (note: hypotenuse should be in middle)



k) Straighten wire to show that its length equals the side of the square.

7. Help students to complete worksheet.



# Octagon Worksheet

## Problem #1

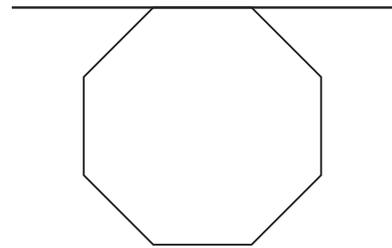
Tile setters are installing an octagon feature in the center of a floor in a square room. The walls are 12 feet long. What is the size of the octagon side? (round answer to nearest 10th of a foot.)

## Problem #2

How far from the corner is the octagon in Problem #1? Give the answer in feet and inches. (round answer to nearest 1/16th of an inch).

## Problem #3

How many degrees are in each angle of the octagon?



## Problem #4

What is the length of the square needed to install an octagon stained glass piece with 16" sides? (round answer to the nearest 1/16th of an inch.)



## Octagon Worksheet

### Problem #1

Tile setters are installing an octagon feature in the center of a floor in a square room. The walls are 12 feet long. What is the size of the octagon side? (round answer to nearest 10th of a foot.)

$$\begin{aligned} \text{Side of square} \div 2.414 &= \text{length of octagon side} \\ 12' \div 2.414 &= \text{length of octagon side} = 4.97' = 4' - 11 \frac{5}{8}' \end{aligned}$$

### Problem #2

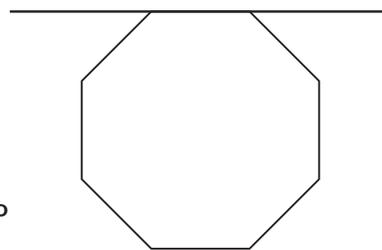
How far from the corner is the octagon in Problem #1? Give the answer in feet and inches. (round answer to nearest 1/16th of an inch).

$$\begin{aligned} \text{Side of square} \div 3.414 &= \text{distance from corner to octagon side} \\ 12' \div 3.414 &= \text{distance from corner to octagon side} = \\ &3.515' = 3' - 6 \frac{3}{16}'' \\ \text{OR } 12' \text{ minus } 4' - 11 \frac{5}{8}'' &= 7' - 3/8'' \text{ divided by } 2 = 3' - 6 \frac{3}{16}'' \end{aligned}$$

### Problem #3

How many degrees are in each angle of the octagon?

$$\begin{aligned} \text{Straight line} &= 180^\circ \\ \text{Angle of isosceles right triangle} &\text{ is } 45^\circ \\ 180^\circ - 45^\circ &= 135^\circ \end{aligned}$$

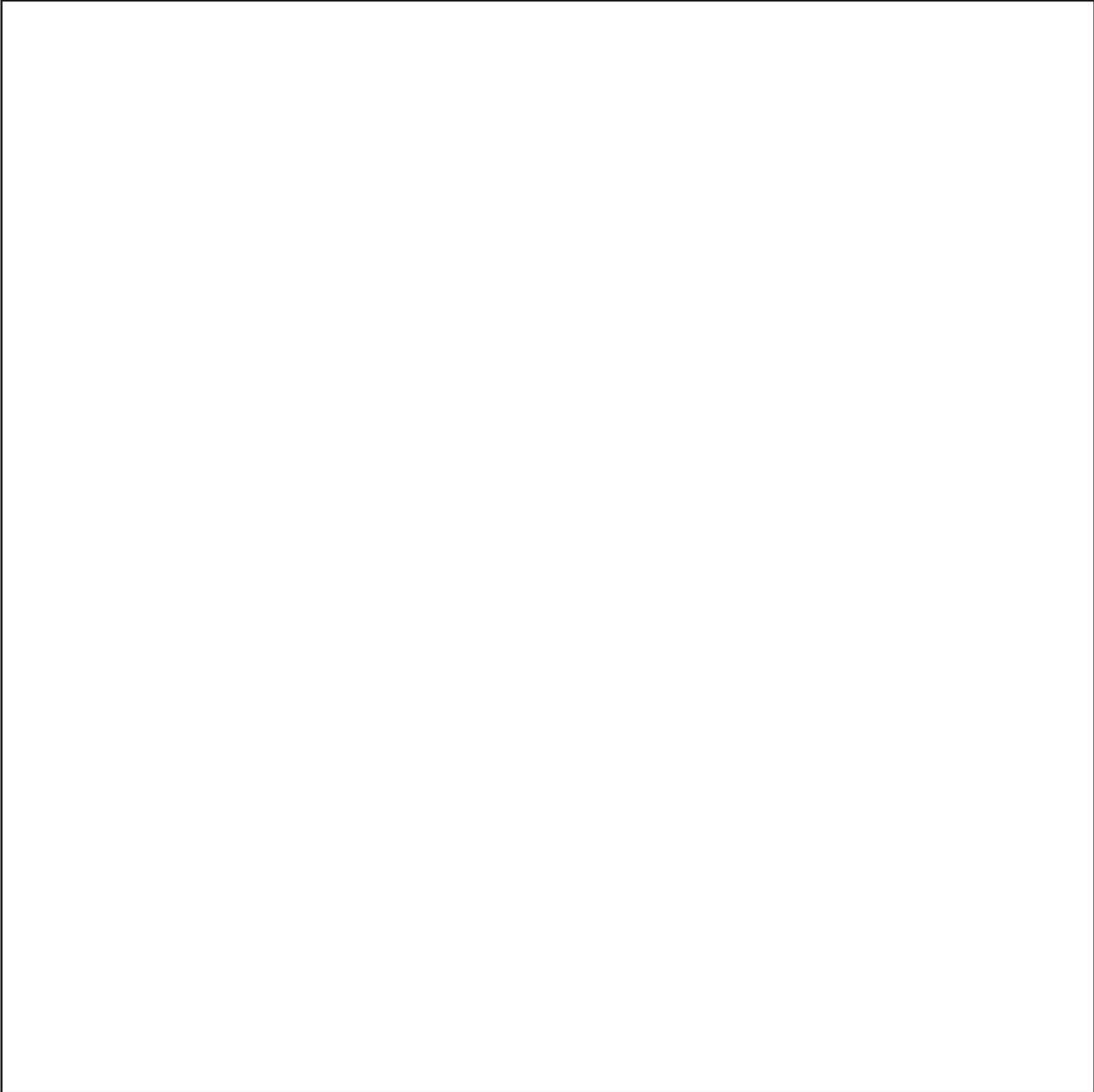


### Problem #4

What is the length of the square needed to install an octagon stained glass piece with 16" sides? (round answer to the nearest 1/16th of an inch.)

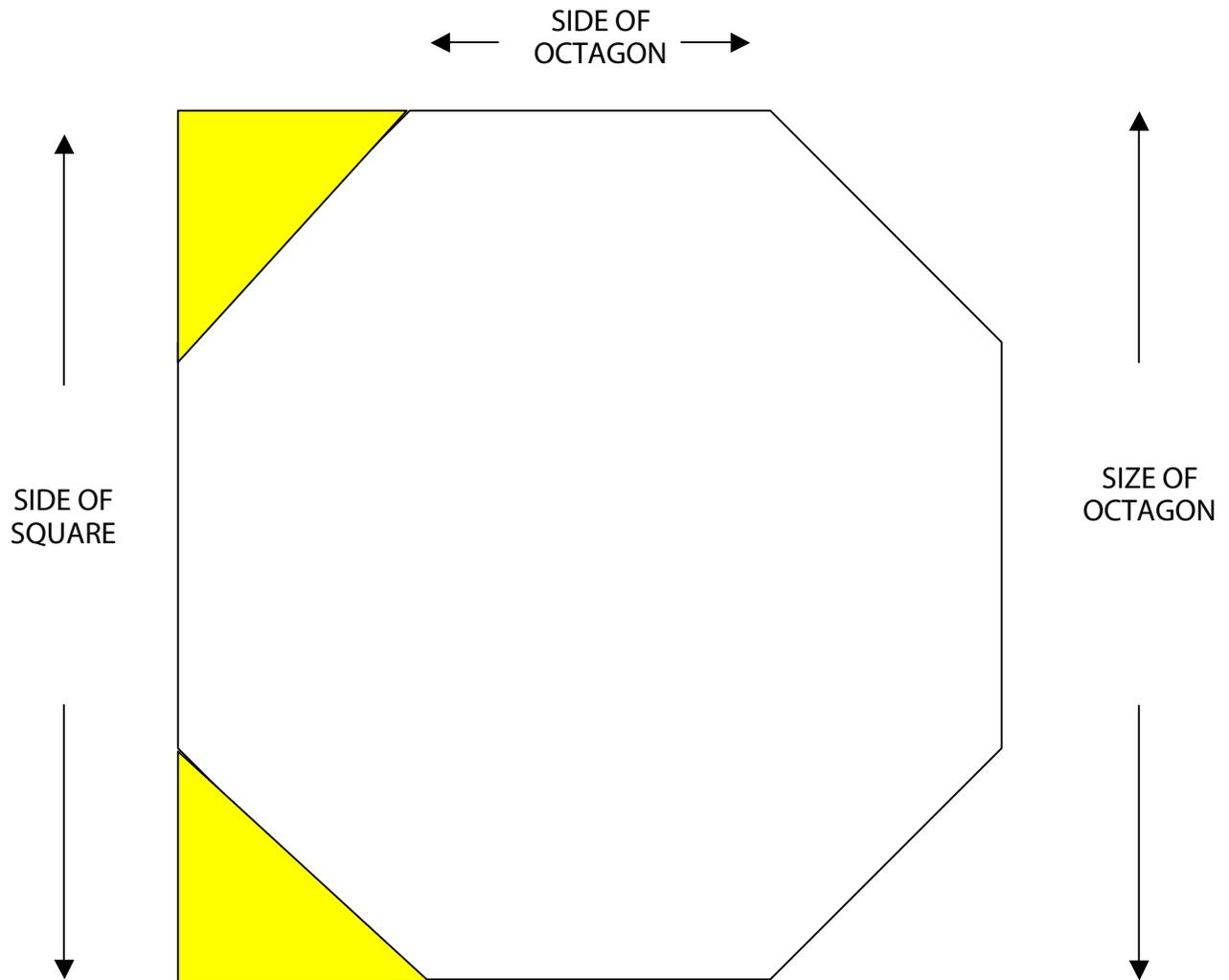
$$16'' \times 2.414 = 38.624 = 38 \frac{5}{8}''$$







# Octagon Inscribed in a Square



Size of octagon and side of square are equal

## Formulas

1. Side of square  $\div$  2.414 = length of octagon side
2. Side of square  $\div$  3.414 = distance from corner to octagon side
3. Side of square  $\times$  square root of 2 – side of square = side of octagon



# Special Right Triangles

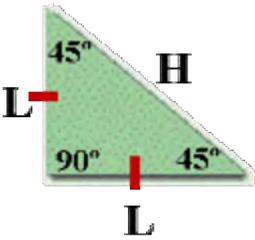
## 45°-45°-90°

Certain triangles possess "special" properties that allow us to use "short cut formulas" in arriving at information about their measures. These formulas let us arrive at the answer very quickly.

One such triangle is the 45°-45°-90° triangle.

There are two "special" formulas that apply **ONLY** to the 45°-45°-90° triangle.

### 45°-45°-90° (Isosceles Right Triangle) "Special" Formulas

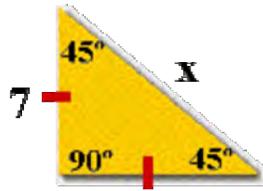
	$H = L\sqrt{2}$	$L = \frac{1}{2}H\sqrt{2}$	You must remember that these formulas can be used <b>ONLY</b> in a 45°-45°-90° triangle.
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### What should I do if I forget the formulas?

The nice thing about mathematics is that there is always another way to do the problem. If you forget these formulas, you could always use the Pythagorean Theorem or a Trigonometry formula.



Let's look at 3 solutions to this problem where you are asked to **find x**:



Special Formula solution	Pythagorean Theorem solution	Trigonometric solution
<p>We are looking for the hypotenuse so we will use the formula that will give the answer for the hypotenuse:</p> $H = L\sqrt{2}$ <p>Substituting the leg = 7, we arrive at the answer:</p> $x = 7\sqrt{2}$ <p>A nice feature of these special formulas is that the answer is already in reduced form.</p>	<p>Since a 45°-45°-90°, also called an isosceles right triangle, has two legs equal, we know that the other leg also has a length of 7 units.</p> $c^2 = a^2 + b^2$ $x^2 = 7^2 + 7^2$ $x^2 = 49 + 49$ $x^2 = 98$ $x = \sqrt{98}$ $x = \sqrt{49 \cdot 2}$ $x = 7\sqrt{2}$	<p>Use either 45° angle as the reference angle (where your stick figure will stand). One possible solution is shown below:</p> $\sin 45^\circ = \frac{7}{x}$ $.7071 = \frac{7}{x}$ <p><math>x = 9.9</math> rounded</p> <p><math>(7\sqrt{2} = 9.9)</math> rounded</p>



# Principles of Square Roots Lesson Plan

## Concept/principle to be demonstrated:

This lesson will demonstrate how to layout and use a calculator to determine right triangles (Pythagorean Theorem). The right triangle is used extensively for layout in construction. The simplest way to lay out a 90° angle is to use the 3-4-5 method. Understanding is demonstrated by applying the formula ( $a^2 + b^2 = c^2$ ) to solve additional construction related problems using a calculator.

## Lesson objectives/Evidence of Learning:

- Explains the meaning of the square root of a number
- Uses physical, symbolic and technological models to explore conjectures
- Uses basic 2-D figures such as circles or polygons to represent objects essential to a situation
- Calculates the area and perimeter of right triangles
- Uses the Pythagorean Theorem in 2-D and 3-D situations when appropriate to compute unknown distances

## Objectives for Part I of Lesson:

Given paper, pencil, and ruler, students will layout triangles on 11” x 17” paper. All measurements shall be accurate to within 1/16.”

## Objectives for Part II of Lesson:

- Comprehends concept of Pythagorean Theorem
- Knows meaning of terms and symbols
- Applies formula to solve variety of construction problems
- Understands uses calculator to compute accurately

## How this math connects to construction jobs:

The Pythagorean Theorem is used extensively by carpenters in construction. This lesson will help students comprehend how right triangles are used to align everything from conduits to walls.

- **Electricians** use right triangle to make off-sets when bending conduit.
- **Carpenters** apply the Pythagorean Theorem to check the diagonal of a foundation or framed wall to determine if it is square.
- **The right triangle** is the key to making stair stringers and roof rafters.
- **Plumbers** have fittings that allow them to make perfect 90° angles.
- **Surveyors** use sophisticated instruments to square property corners.

### Teacher used training aids:

- 6" 8" and 10" plywood or card stock squares marked with 2" grids
- Additional 8" square cut into 4 pieces
- 16' tape
- Framing square with rafter table (optional)
- 12' rope loop with knots every foot (optional)

### Materials needed per student:

- 11" x 17" paper
- 12" ruler
- Pencil
- Calculator with  $\sqrt{\quad}$  key & memory +/- functions
- *Principles of Square Roots Worksheets*
- *Principles of Square Roots Applied to Right Triangles* handout
- *Right Triangles Wordsearch*

### Terms:

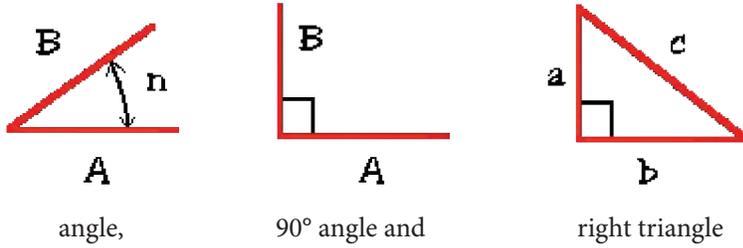
- **Altitude (rise):** The perpendicular distance from the vertex to the base.
- **Angle:** The union of two rays with a common endpoint, called the vertex.
- **Base (run):** The bottom of a plane figure or three-dimensional figure.
- **Diagonal:** The line segment connecting two nonadjacent vertices in a polygon.
- **Hypotenuse:** The side opposite the right angle in a right triangle.
- **Right angle:** An angle whose measure is 90 degrees.
- **Square root ( $\sqrt{\quad}$ ):** The square root of x is the number that, when multiplied by itself, gives the number, x.

### Lesson Introduction:

In building layout and floor framing, buildings are checked for square. The 3-4-5 method is commonly used. This is a very old method developed by the Greeks. It's called the Pythagorean Theorem. Here's the deal: there was this Greek guy named Pythagoras, who lived over 2,000 years ago during the sixth century B.C. Pythagoras spent a lot of time thinking about math, astronomy, and music. One idea he came up with was a mathematical equation that's used all the time in architecture, construction, and measurement. What is important is how to use the theory to layout right triangles. I'll use this rope to demonstrate. Today, you will work in your teams to layout triangles on paper. Then use calculators to solve construction related problems.

## Lesson Components:

1. Draw on white board and explain:



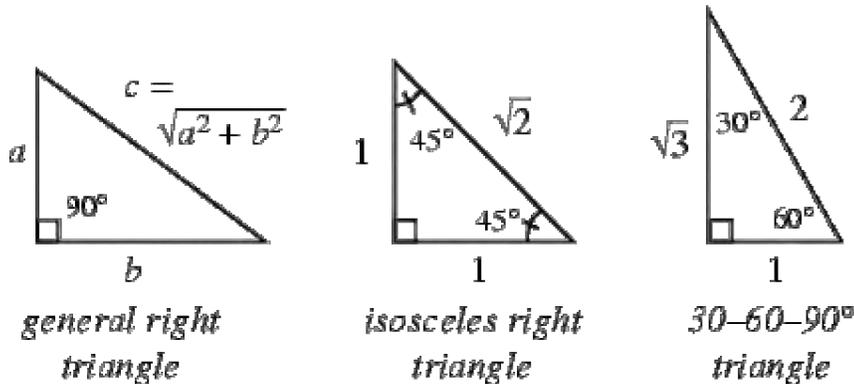
angle,

90° angle and

right triangle

2. Right triangles are special:

- a. Used extensively in construction.
- b. 45°-45°-90° and 30°-60°-90° have unique qualities.



*general right triangle*

*isosceles right triangle*

*30-60-90° triangle*

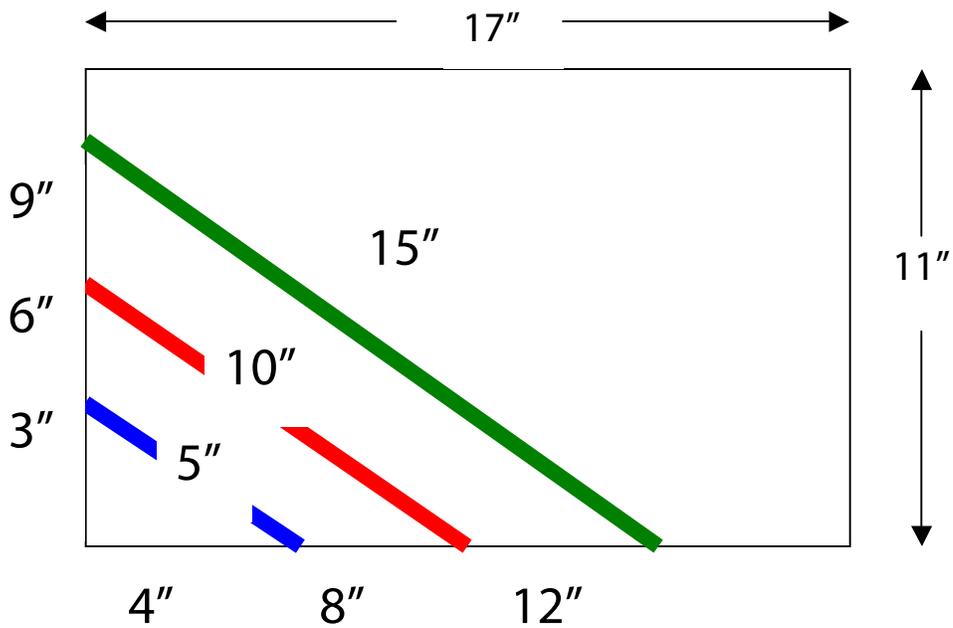
3. Construction terms and uses:

- a. Base is run. Used in roofs and stairs
- b. Altitude is rise. Also used in roofs and stairs.
- c. Electricians and plumbers also use right triangle. Off-set is another term.
- d. Hypotenuse is diagonal when squaring rectangles; used in framing& forms

4. **Demonstration** for 3-4-5

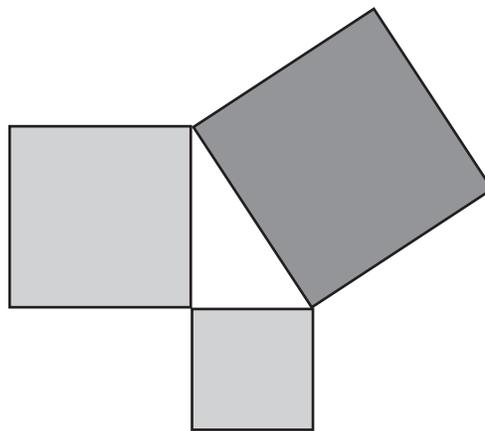
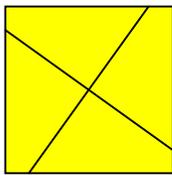
- a. Measure the up 3" on end of paper & mark.
- b. Measure along long edge 4" & mark
- c. Draw a line from mark to mark.
- d. Measure the length of the line (5").
- e. Note: this can be done on a white board using a 16" tape. Measurements become 3', 4' and 5'. Layout is done by swinging an arch to establish pts.

5. Students practice layout and measure 90° triangles.



6. Why does this work? Show cutouts. Also demonstrate how the cut  $4^2$  pieces fit around  $3^2$  to form  $5^2$ .

Cuts of spare  $4^2$  square



7. Hand out calculators and *Principles of Square Roots Worksheets*.

- a. Explain keys (memory +/-,  $\sqrt{\quad}$  etc)
- b. Practice drill with calculators

8. Review  $a^2 + b^2 = c^2$  on board

- a. Insert 3-4-5
- b. Have students practice keys

9. Explain relationship of formula substitute 3-4-5

a.  $a^2 + b^2 = c^2$

b.  $a^2 = c^2 - b^2$

c.  $b^2 = c^2 - a^2$

10. Solve problems using  $\sqrt{\quad}$  key

a. Work in teams

b. Encourage correct responses

11. Explain construction uses for right triangle:

a. Wall braces, stair stringers, roof rafters, floors, and foundations.

b. Open responses to excavation questions.

c. Assist student teams solve wall brace questions

### Review:

1. What are some of the ways right triangle is used in construction?
2. Explain 3-4-5. What does  $c^2$  equal? Who can explain "Square root"?
3. The framing square has a table printed (all runs are 12"). Show table.
4. What is the hypotenuse of a triangle with a 12" run and 5" rise? (use calculator)
5. Questions?

**Additional resources:** *Right Triangles Wordsearch*

A blueprint for success



# Principles of Square Roots Worksheets

Apply the principles of square root to carpentry by solving the following problems (round answers to two decimal places):

**Problem #1** (key strokes: enter number followed by the  $\sqrt{\quad}$  key)

a.  $\sqrt{81}$  \_\_\_\_\_

b.  $\sqrt{100}$  \_\_\_\_\_

c.  $\sqrt{169}$  \_\_\_\_\_

d.  $\sqrt{892}$  \_\_\_\_\_

e.  $\sqrt{1235}$  \_\_\_\_\_

f.  $\sqrt{1692}$  \_\_\_\_\_

**Problem #2**

Using the following formulas, solve for the missing dimension:

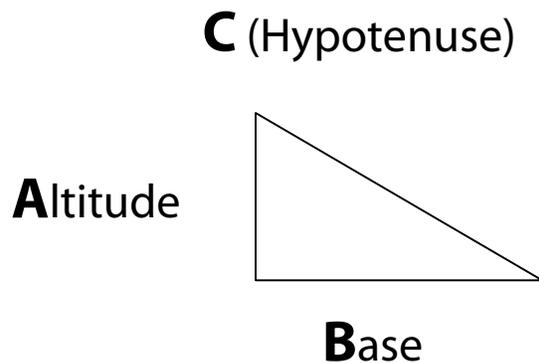
(key strokes: number,  $x^2$  key, plus key, number,  $x^2$  key, equals,  $\sqrt{\quad}$  key)

$$C = \sqrt{A^2 + B^2} \quad B = \sqrt{C^2 - A^2} \quad A = \sqrt{C^2 - B^2}$$

a. Find C if A = 9" and B = 10" \_\_\_\_\_

b. Find B if C = 7" and A = 5" \_\_\_\_\_

c. Find A if C = 27" and B = 13" \_\_\_\_\_

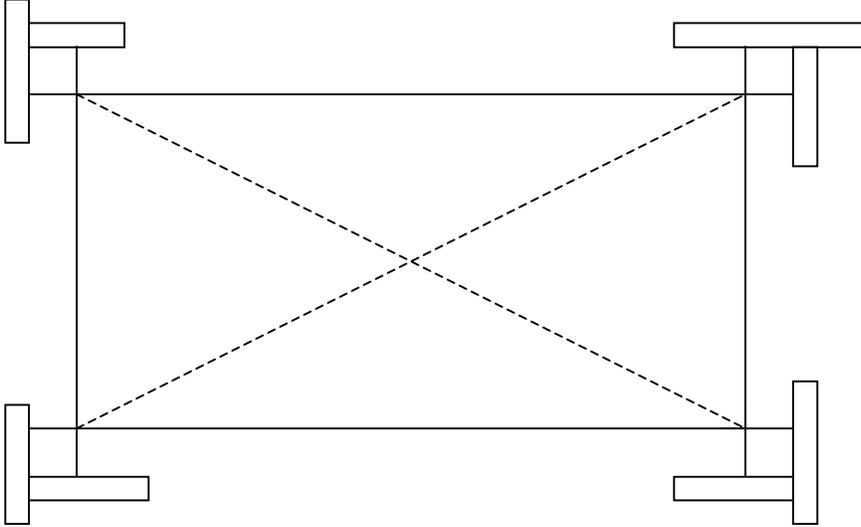




### Problem #3

In the illustration below the rectangle represents the lines of excavation for the foundation of a house.

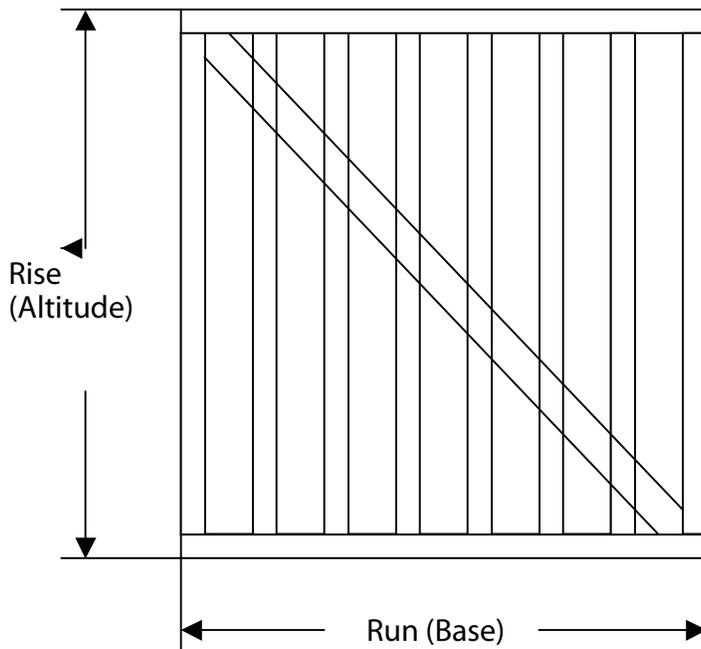
- a. If the house is 45'-0" long and 27'-0" wide, what is the length of the diagonals? \_\_\_\_\_
- b. What is the diagonal in feet and inches to the nearest 1/16? \_\_\_\_\_



### Problem #4

Use the illustration of the wall brace and find the length of the brace (diagonal) for each of the following problems:

- a. Wall height is 6'-0" and the run is 9'-0" \_\_\_\_\_
- b. Wall height is 18'-0" and the run is 26'-0" \_\_\_\_\_
- c. Wall height is 3'-6" and the run is 6'-6" \_\_\_\_\_





# Principles of Square Roots Worksheets

Apply the principles of square root to carpentry by solving the following problems (round answers to two decimal places):

**Problem #1** (key strokes: enter number followed by the  $\sqrt{\quad}$  key)

- |                  |              |
|------------------|--------------|
| a. $\sqrt{81}$   | <b>9</b>     |
| b. $\sqrt{100}$  | <b>10</b>    |
| c. $\sqrt{169}$  | <b>13</b>    |
| d. $\sqrt{892}$  | <b>29.87</b> |
| e. $\sqrt{1235}$ | <b>35.14</b> |
| f. $\sqrt{1692}$ | <b>41.13</b> |

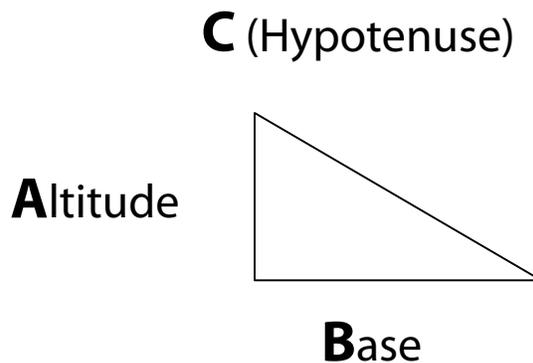
**Problem #2**

Using the following formulas, solve for the missing dimension:

(key strokes: number,  $x^2$  key, plus key, number,  $x^2$  key, equals,  $\sqrt{\quad}$  key)

$$C = \sqrt{A^2 + B^2} \quad B = \sqrt{C^2 - A^2} \quad A = \sqrt{C^2 - B^2}$$

- |                                  |               |
|----------------------------------|---------------|
| a. Find C if A = 9" and B = 10"  | <b>13.45"</b> |
| b. Find B if C = 7" and A = 5"   | <b>8.60"</b>  |
| c. Find A if C = 27" and B = 13" | <b>29.97"</b> |





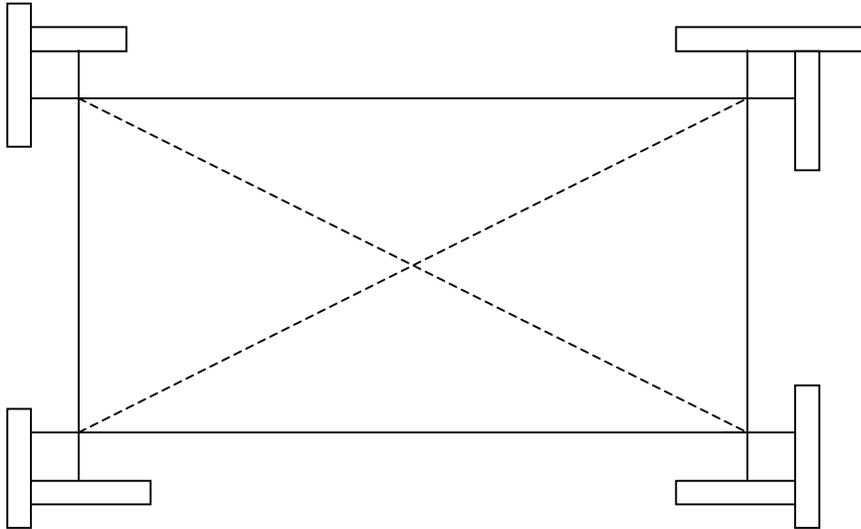
**Problem #3**

**KEY**

In the illustration below the rectangle represents the lines of excavation for the foundation of a house.

a. If the house is 45'-0" long and 27'-0" wide, what is the length of the diagonals? **52.48'**

b. What is the diagonal in feet and inches to the nearest 1/16? **52'-5.75"**



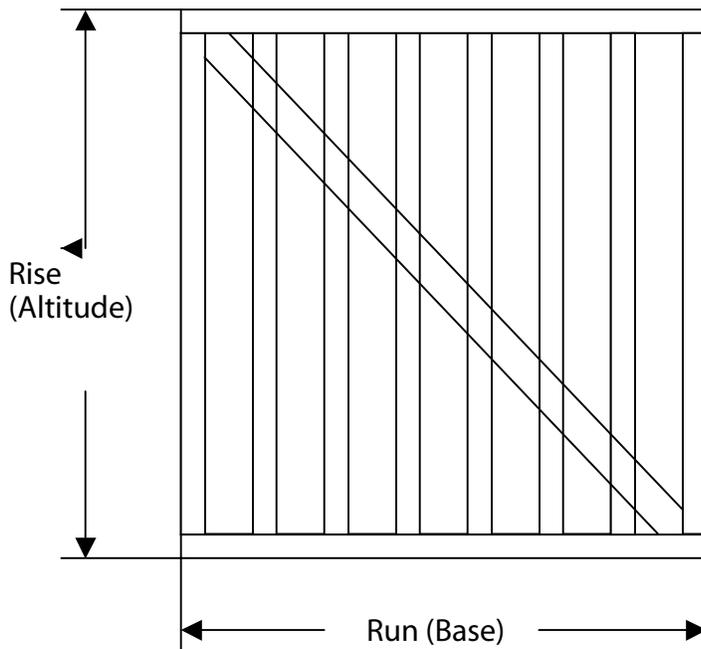
**Problem #4**

Use the illustration of the wall brace and find the length of the brace (diagonal) for each of the following problems:

a. Wall height is 6'-0" and the run is 9'-0" **10.82'**

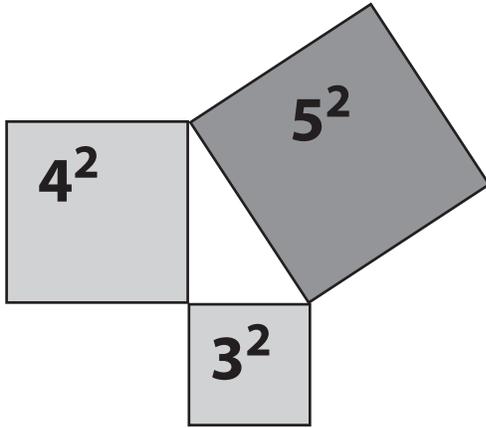
b. Wall height is 18'-0" and the run is 26'-0" **31.62'**

c. Wall height is 3'-6" and the run is 6'-6" **7.47' or 88-9/16"**





# Principles of Square Root Applied to Right Triangles



The right triangle shown here illustrates an important application of a formula which is used to find the length of a third side of a triangle if two sides are known. The square of the hypotenuse of a right triangle is square to the sum of the squares of the two sides.

## Pythagorean Theorem

$$(\text{hypotenuse})^2 = A^2 + B^2$$

$$25 = 16 + 9$$

It can also be seen that:

$$A^2 = C^2 - B^2$$

$$16 = 25 - 9$$

$$B^2 = C^2 - A^2$$

$$9 = 25 - 16$$



# Right Triangles Wordsearch

M T A P Y T H A G O R A S L B  
T N H I S F U N A N D E E A A  
S E Y C F K A J W L P G S Y A  
E M N U R Q H E C A C E M O F  
J E L L R N R T H X L C B U L  
T R L R D F S S J L C F H T F  
S U I G M L Y Z F U R Q V A K  
Z S U G N U U B R X A J K O D  
Z A V Z H A T O I X S G L E A  
K E Y Q K T I J S S N D R A E  
J M W L H G A R E K S A J V R  
K O P D T W R N T E U G Y Z A  
C I R T E M O E G Q V Z A F X  
A L T I T U D E S L F V L Q K  
S Y Y I S S Q U A R E R O O T

ALTITUDE

ARC

AREA

BASE

GEOMETRIC

LAYOUT

MEASUREMENT

PYTHAGORAS

RIGHTANGLE

RISE

RUN

SHAPES

SQUARED

SQUAREROOT

TRIANGLE



# Ratios and Scale Lesson Plan

## Concept/principle to be demonstrated:

In nearly every construction occupation, ratio is used to determine scale, capacity, and usage. Ratio is critical to safety on the worksite, and in the finished product. A ratio is a comparison of two or more quantities, and can be expressed in several forms. Understanding is demonstrated by solving a variety of construction-related problems.

## Lesson objectives/Evidence of Learning:

- Identify and express ratios in several forms and in simplest terms.
- Use different ratios to show the same scale/proportion of an object.
- Compare and contrast how different mathematical procedures could be used to complete a particular task.
- Transfer mathematical vocabulary, concepts, and procedures to other disciplinary contexts and the real world.
- Recognize and explain the meaning of information presented using mathematics.
- Solve a variety of construction related problems.

## How this math connects to construction jobs:

Ratios provide an easy way to compare two quantities. When a builder reviews blueprints prepared by architects, she or he checks the scale of the drawing (usually in a key, similar to a geography map) to determine the ratio to which the blueprint was drawn. This lesson will help students comprehend how ratios and proportions are used in construction.

- **Architects** use ratios to draw blueprints to a scale that is easy for builders to interpret.
- **Engineers** use ratios to test structural and mechanical systems for capacity and safety issues.
- **Painters** use ratios to mix pigments to get a desired color.
- **Millwrights** use ratio to solve pulley rotation and gear problems.
- **Operating Engineers** apply ratios to ensure the correct equipment is used to safely move heavy materials such as steel on worksites.

## Teacher used training aids:

- Set of blueprints or other documents that show proportioned scale (i.e., road map)
- Architecture scale (optional)

## Additional online aid:

- Reference to [www.constructmyfuture.com](http://www.constructmyfuture.com) website – *Top 10 Construction Projects of the 20th Century* pages (optional)

## Materials needed per student:

- Calculator with  $\sqrt{\quad}$  key & memory +/- functions
- **Ratios and Scale Worksheet**
- Rulers (optional)
- Graph paper for each student

## Lesson Introduction:

Ratios are used in construction to design buildings to the desired scale; to communicate the scope of a project from an architect's desk to a worksite; and to accurately use and manage products. In today's lesson, we'll first look at concrete mix as an example. It may not sound glamorous, but it's important a cement mason gets the ratio of concrete mix to water just right – too much water can reduce the strength of a foundation, which could lead to cracking and other serious structural safety issues. Other types of materials that construction workers regularly mix on the job site include paints, glues and adhesives, and gasoline.

Ratios are used when an operating engineer calculates how much product can be hoisted in the air above a worksite. He or she must use the correct cabling and equipment to safely move materials, such as steel, in areas where other people are working.

## Lesson Components:

1. Look at structures listed in the *Top 10 Construction Projects of the 20th Century* webpage on [www.constructmyfuture.com](http://www.constructmyfuture.com) – in reading the descriptions of building these famous structures, (World Trade Center, Hoover Dam, etc.) ask students in what steps of the building project do they think ratio would be important to know, and why.

**Note:** It is helpful to ask if any students have been to these famous structures, and what they observed. For example: Since 1937, 1.6 billion cars have crossed the Golden Gate Bridge in San Francisco – what decisions do you think designers of this bridge made to ensure the bridge would be safe? How does would ratio relate to these decisions?

2. A ratio is a comparison of two like quantities that are expressed in the same units of measure. A ratio takes on the form of a fraction; however, the final form of a ratio is not left as a fraction. It is written as a statement of the ratio relationship (this to that).

### Examples to write on the board:

<b>3 inches/5 inches</b>	(any ratio can be expressed as a fraction)
3 inches/5 inches = $\frac{3}{5}$	(whenever possible, cancel identical units)
<b>3 : 5</b>	(read aloud “the ratio of three to five”)

3. A ratio written in either form can be reduced like a fraction.

<b>5 : 10</b>	5 can be divided into both numbers (numerator & denominator)
$\frac{5}{5} : \frac{10}{5} = \frac{1}{2}$	Complete the math
<b>1:2</b>	This is the simplified ratio in the referred format.

4. Order of the ratio is established by the problem statement. Placement of the numbers in the numerator and denominator is critical.

**Examples to write on the board:**

What is the ratio of 16 quarts to 5 gallons?

<b>16 qt : 5 gal</b>	Write the ratio.
<b>4 gal : 5 gal</b>	Change to the same units
<b><del>4 gal</del> : 5 gal</b>	Cancel identical units
<b>4 : 5</b>	Ratio is now in lowest terms. This could be used to measure 4 cups to 5 cups, or 4 quarts to 5 quarts.

5. Concrete mix is an example of how ratios can show the relationship of more than two quantities. Cement, sand and crushed stone are mixed in the ratio of 1 : 2 : 5 by weight. For every pound of cement used, two pounds of sand and five pounds of crushed rock are used. How much of each component are needed for 4000 pounds of concrete?

<b>1 + 2 + 5 = 8</b>	There are 8 parts to the mix (denominator)
<b>1/8</b>	There is one part of cement in the mix
<b>2/8 or 1/4</b>	There are 2 parts of sand in the mix.
<b>5/8</b>	This is the portion of the ratio that is crushed rock

$$\begin{aligned} 1/8 \times 4000 &= 500 \text{ lbs cement} \\ 1/4 \times 4000 &= 1000 \text{ lbs sand} \\ 5/8 \times 4000 &= 2500 \text{ lbs crushed rock} \end{aligned}$$

$$500\text{lbs cement} + 1000 \text{ lbs sand} + 2500\text{lbs crushed rock} = 4000 \text{ lbs total mixture}$$

6. Show students the blueprint drawings and/or road map. Point out the key features of the blueprint or map, asking what these features are called (such as a map legend). Invite a student to review the blueprint or map, and tell the class the scale of the document. Explain this is a ratio used to make it possible to precisely draw and convey actual measurements in a usable document.
7. Architects and engineers use ratio in technical drawings and blueprints. By the way, blueprints aren't always the color blue – before computer aided drafting, copies of building specifications were drawn using blue lines (hence the name which is still used, “blueprint”). Nowadays, most technical drawings and blueprints are reproduced in black and white.
8. Pass out of 8 1/2” x 11” graph paper to students, asking them to orientate the paper in landscape (11” sides being the top and bottom of the page). Have students draw a “legend” in the bottom right hand corner on each side of the paper, with these different scales:

$$\begin{aligned} \text{Side One: } 1/4'' &= 1'0'' \text{ (most graph paper boxes equal } 1/4'') \\ \text{Side Two: } 1/4'' &= 5'0'' \end{aligned}$$

Tell the students they will draw a basic, one story house “shell” plan (exterior walls only) to these different scales/ratios, with the final shell dimensions matching in both drawings (square footage, placement of windows and doors, etc.). When two ratios can be set equal to each other, a proportion is formed. Explain how this activity will help them understand the relationship between ratios and proportion as a way to communicate information and make decisions.

Students can determine the overall square footage and shape they want for their house, but need to use these perimeters:

Front door opening = 36”

At least five windows = 28”

A bay window = 24”x42”x24” (may need to draw this on the board)

A sliding glass door = 6’ in width

A two-car attached garage with one or two doors

For extra credit or homework, students can take home their drawings, and add interior rooms and features, such as fireplaces, sunken tubs, and other fun and creative additions.

8. Use ***Ratios and Scale Worksheet*** in class or as homework.

# Ratios and Scale Worksheet

Solve the following problems and reduce answers to simplest terms without units:

## Problem #1

3 feet : 6 inches

## Problem #2

25 / 80

## Problem #3

25 lb cement : 50 lb sand : 75 lb crushed rock

## Problem #4

3 rejections to 24 good welding joints

## Problem #5

The blueprint for a building is drawn to a scale of  $1/4'' = 1$  ft. If the dimensions measure  $6\ 1/2$  inches by 11 inches on the print, what are the building dimensions?

## Problem #6

Two gears have 64 and 40 teeth. What is their ratio?

## Problem #7

What is the ratio of 3 yards to 12 inches?



# Ratios and Scale Worksheet

Solve the following problems and reduce answers to simplest terms without units:

## Problem #1

3 feet : 6 inches                      **36 : 6      6 : 1**

## Problem #2

25 / 80                                   **$\frac{25 : 80}{5 \quad 5}$                       5 : 16**

## Problem #3

25 lb cement : 50 lb sand : 75 lb crushed rock                       **$\frac{25 : 50 : 75}{25 \quad 25 \quad 25}$                       1 : 2 : 3**

## Problem #4

3 rejections to 24 good welding joints                       **$\frac{3 : 24}{3 \quad 3}$                       1 : 8**

## Problem #5

The blueprint for a building is drawn to a scale of  $1/4" = 1 \text{ ft}$ . If the dimensions measure  $6 \frac{1}{2}$  inches by 11 inches on the print, what are the building dimensions?

**26' x 44'**                       **$1/4 : 6 \frac{1}{2}$                       (X4)                      1 : 26**  
     **$1/4 : 11$                       (X4)                      1 : 44**

## Problem #6

Two gears have 64 and 40 teeth. What is their ratio?                       **$\frac{64 : 40}{8 \quad 8}$                       8 : 5**

## Problem #7

What is the ratio of 3 yards to 12 inches?                      **9 : 1**



Granite State Charter Academy

Appendix D

Draft Calendar

# Granite State Charter Academy | 2024-2025 CALENDAR

School Closed /Holidays
1 <sup>st</sup> & Last Day of School for Teachers
1 <sup>st</sup> & Last Day of School for Students
Teacher Workdays (campus closed for students)
End of Quarters
½ day – early release

**4** Independence Day

**1-5** Office Closed

JULY '24						
S	M	T	W	Th	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

JANUARY '25						
S	M	T	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

**1-3** Winter Break – No School

**6** Teacher Workday – No School

**20** Dr. King Day – No School

**5-16** Required Teacher Pre-Planning Days

**19** First Day of School

AUGUST '24						
S	M	T	W	Th	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

FEBRUARY '25						
S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

**14** Teacher Workday – No School

**17** Presidents' Day – No School

**2** Labor Day – No School

SEPTEMBER '24						
S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

MARCH '25						
S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

**13** End of Quarter 3 – 46 Days

**14** Teacher Workday – No School

**15** End of Quarter 1 – 41 Days

**18** Teacher Workday – No School

OCTOBER '24						
S	M	T	W	Th	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

APRIL '25						
S	M	T	W	Th	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

**11-21** Spring Break – No School

**11** Veterans Day – No School

**25-29** Thanksgiving Break – No School

NOVEMBER '24						
S	M	T	W	Th	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

MAY '25						
S	M	T	W	Th	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

**26** Memorial Day

**28** End of Quarter 47 Days Last Day of School

**29** Teacher Workday

**30** Teacher Workday

176 Instructional Days  
1,144 Instructional Minutes

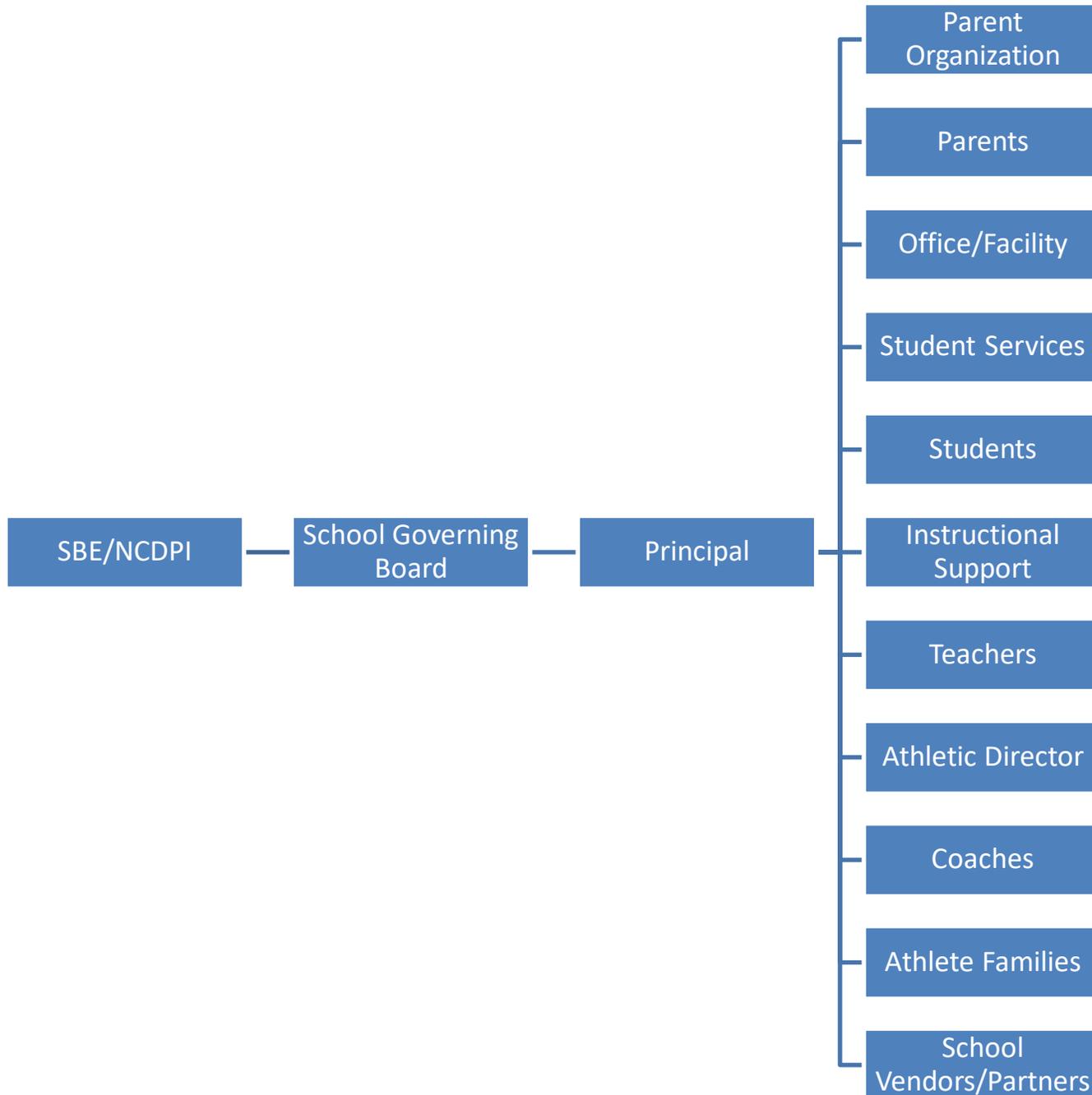
**20** End of Quarter 41 Days – Early Release Day

**23-31** Winter Break – No School

DECEMBER '24						
S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

JUNE '25						
S	M	T	W	Th	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Granite State Charter Academy  
Appendix G  
Organizational Chart



## **PRIMARY RESPONSIBILITIES**

### **School Governing Board:**

Vision/Mission of the school  
Board Policies & Approve Revisions  
Approve Yearly Budget & Revisions  
Hires & Evaluates Principal  
Delegates day to day oversight of the school to Principal  
Approves reports to the Sponsor  
Strategic Planning  
Evaluate Program  
Approve Large Contracts  
Handle unresolved grievances  
Measure school progress towards SIP

### **Principal Works collaboratively with the School Board to:**

Revise staff, family handbooks as needed  
Review, revise and support School Improvement Plan  
Budget creation, implementation and resource allocation  
Assist with Student Staff or Parent complaints/grievances as received  
Participate in state and regional committees, trainings, surveys, studies  
Assist with Board reports (finance, special items)  
Capital and facility planning  
Support Crisis and Emergency Response Plans  
Support lottery and registration process for enrollment  
Provide Professional Development/Curricular Support/Resources

### **Principal:**

Recommend for hire and evaluate all school staff  
Serve as Instructional Leader of the school  
Create and Implement the Master Schedule  
Assist with lottery, database and registration process  
Provide Professional Development/Curricular Support/Resources  
Conduct daily classroom walk-throughs with timely feedback to staff

Disaggregate student data  
Responsible for Student Safety  
Daily operations of the building  
Ensure admin representation at all building level events  
Monthly board reports  
Reports for Charter Link  
Parent and Community relations  
Testing Schedules

**Instructional Leadership:** Support all teachers in best practices, data interpretations and student grouping, curricular alignment to standards by content area and grade level, support EC, EL and AIG student supports, prepare and present professional development, oversee tutoring camps, serve in teacher interview committees. Provide and facilitate all professional development

**Student Services:** All student discipline and behavior, parent conferences, teacher support. Participate in all MTSS meetings or contribute student discipline data as relates to MTSS tracking. Support student safety efforts and activities

**Contracted Finance**

Manage PO System, AR, AP, Payroll Support  
Create and submit monthly financial reports  
Monthly budget updates as contracted/requested

## Letter of Intent

### Circle City Properties Services, LLC.

April 26, 2022

Seller(s):

Circle City Properties Services, LLC. and/or assigns  
644 Millbrook Drive  
Pittsboro, NC 27312

**Circle City Properties Services, LLC. and/or assigns** is pleased to present this Letter of Intent for the Property (as defined below) to **Granite State Charter Academy, Inc.**

This Letter of Intent is not intended to constitute a binding agreement, but shall merely serve as the basis for negotiating and drafting a definitive purchase and sale agreement between the parties containing the terms stated in this Letter of Intent, as such terms may be further negotiated and mutually agreed upon by the parties, and such other terms and conditions to be determined and mutually agreed upon by the parties in order to get Granite State Charter Academy, Inc. constructed and open for students.

It is understood and agreed that this Letter of Intent does not contain all the essential terms that the parties expect will be part of a definitive purchase and sale agreement.

The basic terms and conditions under which Granite State Charter Academy, Inc. is interested in negotiating and entering into a mutually agreed upon and binding purchase and sale agreement (a "Contract") are as follows:

1. **PROPERTY:** At least fifteen "15" acres of real property in the Compact Community Area of Chatham County connected with the mastepanned project known as "Fearington Preserve" and near "Briar Chapel". The location will ultimately be a suitable and mutually agreed upon site on Chatham County PIN #'s 2809, 92718, 2777, 2842 and/or 2904.
2. **PURCHASE PRICE:** Buyer will pay to Sellers a purchase price of one million five hundred thousand "\$1,500,000.00" and/or or \$100,000 per acre. The Property shall be acquired via a single closing.
3. **FEASIBILITY PERIOD:** Buyer shall have (120) days after the execution of the Purchase and Sale Agreement by both Buyer and Seller to inspect the property. If Buyer is not satisfied with the Property for any reason during the Feasibility Period, Buyer may elect to terminate the Contract and receive a full refund of the Deposit.
4. **CLOSING:** Closing shall occur fifteen (15) days after receipt of all permits from Chatham County and North Carolina required to develop the site for the purposes of **Granite State Charter Academy, Inc.**
5. **INITIAL DEPOSIT:** Within ten (10) business days after the execution of the purchase agreement, Buyer shall make a Deposit of \$25,000. If Buyer is not satisfied with the Property for any reason

during the Feasibility Period, Buyer may elect to terminate the Contract and receive a full refund of the Deposit.

6. **ADDITIONAL DEPOSIT:** Within ten (10) business days following expiration of the Feasibility Period, Buyer shall make an Additional Deposit of \$75,000. Upon receipt, the Additional Deposit shall be non-refundable subject to Seller default and standard closing conditions.
7. **ENGINEERING AND DUE DILIGENCE RESPONSIBILITY:** The Purchase Price assumes that the Buyer shall be responsible for funding all future due diligence, entitlement and engineering costs for the Property, but that Seller shall assist in Buyer's entitlement and due diligence efforts. In the event of Buyer termination due to any reason other than Seller default, Buyer shall provide copies of any non-proprietary 3<sup>rd</sup> party due diligence to Seller.
8. **OFFSITE IMPROVEMENTS:** Purchase Price assumes that Buyer shall complete offsite road, water and sewer improvements necessary for Buyer's Property at Buyer's sole expense.
9. **REAL ESTATE BROKERAGE COMMISSION:** Buyer may name a Broker for this transaction. Any Broker commissions shall be paid by the Seller at the close of escrow.

Upon acceptance and consent, Buyer will prepare or cause to be prepared a definitive purchase and sale agreement consistent with the terms of this Letter of Intent for review and negotiations.

I look forward to working with you on this project.

Sincerely,

DocuSigned by:  
  
6108F3B8046D4DF...

John Foley

Circle City Properties Services, LLC.  
Member/Manager  
Phone: 919-612-7133  
john@johnfoleyjr@gmail.com

Agreed and accepted,

DocuSigned by:  
  
8B5C997308E1480...

Holly Fraccaro

Granite State Charter Academy, Inc.  
Chair  
Phone: 919-265-9350  
holly@hbadoc.com

## Signature Page

The foregoing application is submitted on behalf of Granite State Charter Academy, Inc. The undersigned has read the application and hereby declares that the information contained in it is true and accurate to the best of his/her information and belief. The undersigned further represents that the applicant has read the Charter School Law and agrees to be governed by it, other applicable laws, and SBE regulations. Additionally, we understand the final approval of the charter is contingent upon successful completion of a mandatory planning year. Per SBE policy "Planning Year for New and Preliminary Charter Schools – CHTR 013, all new nonprofit boards receiving a charter must participate in a year-long planning program prior to the charter school's opening for students. The planning year provides an applicant time to prepare for the implementation of the school's curricular, financial, marketing, and facility plans. During this planning year, regular meetings are held with the Board of Directors and consultants from the Office of Charter Schools to provide information on the following topics: school opening plans, staff development, finance, governance, board training, marketing, policies and procedures, securing a school site, and hiring a school administrator. Final approval of the charter will be contingent upon successfully completing all of the planning program requirements.

Print/Type Name: Holly Fraccaro

Board Position: Chair

Signature: 

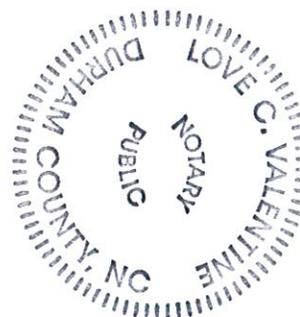
Date: 4/28/2022

Sworn to and subscribed before me this 29th day of April, 2022.

Notary Public: 

Official Seal:

My commission expires: November 12, 2022.



## Letter of Intent

### Circle City Properties Services, LLC.

April 26, 2022

Seller(s):

Circle City Properties Services, LLC. and/or assigns  
644 Millbrook Drive  
Pittsboro, NC 27312

**Circle City Properties Services, LLC. and/or assigns** is pleased to present this Letter of Intent for the Property (as defined below) to **Granite State Charter Academy, Inc.**

This Letter of Intent is not intended to constitute a binding agreement, but shall merely serve as the basis for negotiating and drafting a definitive purchase and sale agreement between the parties containing the terms stated in this Letter of Intent, as such terms may be further negotiated and mutually agreed upon by the parties, and such other terms and conditions to be determined and mutually agreed upon by the parties in order to get Granite State Charter Academy, Inc. constructed and open for students.

It is understood and agreed that this Letter of Intent does not contain all the essential terms that the parties expect will be part of a definitive purchase and sale agreement.

The basic terms and conditions under which Granite State Charter Academy, Inc. is interested in negotiating and entering into a mutually agreed upon and binding purchase and sale agreement (a "Contract") are as follows:

1. **PROPERTY:** At least fifteen "15" acres of real property in the Compact Community Area of Chatham County connected with the mastepanned project known as "Ferrarington Preserve" and near "Briar Chapel". The location will ultimately be a suitable and mutually agreed upon site on Chatham County PIN #'s 2809, 92718, 2777, 2842 and/or 2904.
2. **PURCHASE PRICE:** Buyer will pay to Sellers a purchase price of one million five hundred thousand "\$1,500,000.00" and/or or \$100,000 per acre. The Property shall be acquired via a single closing.
3. **FEASIBILITY PERIOD:** Buyer shall have (120) days after the execution of the Purchase and Sale Agreement by both Buyer and Seller to inspect the property. If Buyer is not satisfied with the Property for any reason during the Feasibility Period, Buyer may elect to terminate the Contract and receive a full refund of the Deposit.
4. **CLOSING:** Closing shall occur fifteen (15) days after receipt of all permits from Chatham County and North Carolina required to develop the site for the purposes of **Granite State Charter Academy, Inc.**
5. **INITIAL DEPOSIT:** Within ten (10) business days after the execution of the purchase agreement, Buyer shall make a Deposit of \$25,000. If Buyer is not satisfied with the Property for any reason

during the Feasibility Period, Buyer may elect to terminate the Contract and receive a full refund of the Deposit.

6. **ADDITIONAL DEPOSIT:** Within ten (10) business days following expiration of the Feasibility Period, Buyer shall make an Additional Deposit of \$75,000. Upon receipt, the Additional Deposit shall be non-refundable subject to Seller default and standard closing conditions.
7. **ENGINEERING AND DUE DILIGENCE RESPONSIBILITY:** The Purchase Price assumes that the Buyer shall be responsible for funding all future due diligence, entitlement and engineering costs for the Property, but that Seller shall assist in Buyer's entitlement and due diligence efforts. In the event of Buyer termination due to any reason other than Seller default, Buyer shall provide copies of any non-proprietary 3<sup>rd</sup> party due diligence to Seller.
8. **OFFSITE IMPROVEMENTS:** Purchase Price assumes that Buyer shall complete offsite road, water and sewer improvements necessary for Buyer's Property at Buyer's sole expense.
9. **REAL ESTATE BROKERAGE COMMISSION:** Buyer may name a Broker for this transaction. Any Broker commissions shall be paid by the Seller at the close of escrow.

Upon acceptance and consent, Buyer will prepare or cause to be prepared a definitive purchase and sale agreement consistent with the terms of this Letter of Intent for review and negotiations.

I look forward to working with you on this project.

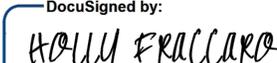
Sincerely,

DocuSigned by:  
  
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John Foley

Circle City Properties Services, LLC.  
Member/Manager  
Phone: 919-612-7133  
john@johnfoleyjr@gmail.com

Agreed and accepted,

DocuSigned by:  
  
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Holly Fraccaro

Granite State Charter Academy, Inc.  
Chair  
Phone: 919-265-9350  
holly@hbadoc.com

Granite State Charter Academy  
Appendix H  
Board 1 Page Resumes  
Board Information Forms

**Randolph “Randy” Voller** is the former Chairman of the North Carolina Democratic Party (“NCDP”), the Sixth Congressional District Committee, and the Chatham County Democratic Party, as well as a four-term mayor of Pittsboro, NC.



919-949-1274  
randy@vrclimited.net

Randy founded VRC, Ltd. in 1995 with his father Lothar “Lot” Voller. The firm focuses on business consulting, real estate brokerage and development. Before Lot’s death in 2012, he brokered international import/export projects from Russia, Italy, Germany and South America. Randy led work on Chatham County developments such as Chatham Forest, Daniel Ridge, and Wilkinson Creek, all of which currently generate ad valorem tax revenues of nearly \$600,000 a year to Chatham County and the Town of Pittsboro. Randy led the effort in 2009 to allow liquor-by-the drink in Chatham County, which grew new businesses and restaurants such as The City Tap, the “Mod”, and the Postal Fish Company. Randy is currently the President and owner of VRC, Ltd. as well as the publisher of the *Chatham County Line*.

Randy has provided leadership on several local, regional, and state boards including as chairman of the Triangle Area Rural Planning Organization, and membership on the boards of the NC Housing Finance Agency, Advanced Energy Corporation, the North Carolina Juvenile Justice Grants Committee, the Chatham County Economic Development Corporation, the Chatham County Affordable Housing Task Force and the Solid Waste Advisory Board among others. Randy is still a member of the NCDP Executive Council, NCDP Executive Committee, and the Platform and Resolutions Committee. He founded the NCDP Labor Caucus and still serves on its executive committee. Randy was a DNC delegate to the 2016 Democratic Convention in Philadelphia.

Randy is a Leadership Triangle Goodmon Fellow and in 2017 was awarded the Goodmon Award for Community Service. He is a 2010 Marshall Memorial Fellow (GMF). He also participated in the Latino Initiative with the UNC Center for International Understanding in 2010 and was twice named a “Home Town Hero” by WCHL. In 2009 Voller received the Carl E. Thompson distinguished service award from the Chatham County Human Relations Commission, and in 2013 the West Chatham NAACP awarded Voller their Humanitarian Service Award along with Chatham County’s School Superintendent, Robert Logan.

Randy is a board member for Main Street Pittsboro as well as Sustainable Prosperity where he also serves as its President.

Voller grew up in Northwest Indiana with his father Lot, his mother Viktoria, sisters Meredith and Cynthia and maternal grandfather Harry Danning. In 1991 he graduated from Indiana University, Bloomington with a degree in History, a minor in East Asian Studies and was a member of the honors program. Randy also graduated from Andean High School. Randy has lived in North Carolina since 1991 and since 2002 he’s lived in Pittsboro with his wife Lesley Landis and their rescue dog Ripley in Chatham Forest, the in-town neighborhood that he developed.

### Charter School Board Member Information Form

*Note: To be completed individually by each proposed founding charter school board member. All forms must be signed by hand.*

Serving on a public charter school board is a position of public trust and as a board member of a North Carolina public charter school; you are responsible for ensuring the quality of the school's entire program, competent stewardship of public funds, and the school's fulfillment of its public obligations and all terms of its charter.

As part of the application for a new charter school, the State Board of Education requests that each prospective board member respond individually to this questionnaire. Where narrative responses are required, brief responses are sufficient.

The purpose of this questionnaire is twofold: 1) to give application reviewers a clearer introduction to the applicant team behind each school proposal in advance of the applicant interview, in order to be better prepared for the interview; and 2) to encourage board members to reflect individually as well as collectively on their common mission, purposes, and obligations at the earliest stage of school development.

#### Background

1. Name of charter school on whose Board of Directors you intend to serve:

Granite State Charter Academy

2. Full name: Randolph S. Voller

Home Address: 21 Randolph Court, Pittsboro, NC 27312

Business Name and Address: VRC, Ltd., 697 Hillsboro Street, Suite 350A, Pittsboro, NC 27312

Telephone No.: 919-949-1274

E-mail address: randy@vrclimited.net

3. Brief educational and employment history.

*I was a member of the Honors Program at Indiana University Bloomington. I received a BA in History and a minor in East Asian Studies. I have all certificates for appraisals in NC and obtained my broker's license in 1993. I founded VRC, Ltd. in 1995 with my father and have been employed by VRC, Ltd. since 1996. Our firm does real estate brokerage, consulting and development.*

4. Have you previously served on a board of a school district, another charter school, a non-public school or any not-for-profit corporation?

No:

Yes:

5. How were you recruited to join this Board of Directors? Why do you wish to serve on the board of the proposed charter school?

*I was recruited by the leadership of the HBA. After discussing the mission of the school I was convinced that the niche that Granite State Charter Academy will fill is vital to the future prosperity of our community. We are a community that is growing rapidly and it will be very important to provide focused educational opportunities that will lead to the development of the needed workforce in our area and region over the next fifty years.*

6. What is your understanding of the appropriate role of a public charter school board member?

*It is my understanding that board members are ultimately accountable for the success and growth of the charter school. The Board will work together to create policies and procedures by which the School and the School leader are directed to follow. The Board will hire the leader of the School and provides him/her with a set of policies, expectations and goals for the charter school and then provides support for that person to meet those goals through resources; financial and human, and ensures that the primary foundation for success are handled prior to the school opening which includes facility, financing, procurement of furniture, curriculum etc and helps contract with expert vendors to create a lunch program, transportation and other necessary functions of a school.*

7. Describe any previous experience you have that is relevant to serving on the charter school's board (e.g., other board service). If you have not had previous experience of this nature, explain why you have the capability to be an effective board member.

*I have served in public service as the Mayor of Pittsboro for four terms as well as on the board of Sustainable Prosperity, Inc.; Main Street Pittsboro; Triangle Area Rural Planning Organization; NC Housing Finance Agency; Advanced Energy Corporation; the North Carolina Juvenile Justice Grants Committee; the Chatham County Economic Development Corporation; the Chatham County Affordable Housing Task Force; the Mid-Carolina Workforce Board; Chatham County Solid Waste Advisory Board; the NCDP Executive Council, the NCDP Executive Committee; the Platform and Resolutions Committee; and the NCDP Labor Caucus.*

8. Describe the specific knowledge and experience that you would bring to the board.

*I have direct knowledge and experience in infrastructure planning and construction including grading and utility work on school sites in North Carolina. In addition, I was raised in a family that highly valued education and self betterment. My mother was an educator and an administrator in Indiana and finished her career running a large program for IVY Tech Community College in Northwest Indiana. I have also served in elected public office which has given me great insight into serving the entire community and pulling together stakeholders in a community to support initiatives and ideas of common purpose.*

### **School Mission and Program**

1. What is your understanding of the school's mission and guiding beliefs?

*The future workforce for the construction and green building industry will need a higher level of education and skill development as we move into an era of green building, solar farms, more complicated electrical and networking work, coding and 3D concrete printing of homes. Granite State Charter Academy proposes to provide a high quality educational experience that will fill that niche as Chatham County grows over the next thirty years.*

2. What is your understanding of the school's proposed educational program?

*Granite State Charter Academy will begin as a K-8 charter school that opens K-6 and grows one grade level per year. Each successful year will determine how much the school organically grows.*

3. What do you believe to be the characteristics of a successful school?

*To me a successful school serves the community at-large and provides a well rounded educational experience and foundation to its pupils thus producing graduates who are capable of continuously learning and adapting to the complexities of an ever changing world.*

4. How will you know that the school is succeeding (or not) in its mission?

*Some of the metrics will be maintaining full enrollment (or hitting projected enrollment targets); a low staff turnover, low student attrition, positive climate surveys, financial stability, little to no compliance issues with the OCS or state authorities as well as a positive reputation in the local community. Ultimately, student achievement and satisfaction will drive our success.*

## **Governance**

1. Describe the role that the board will play in the school's operation.

*The board should be involved with policy creation, oversight, accountability, evaluating the school leader, interpreting data reports that include academics, finance, compliance and evaluating other reports that measure the aforesaid factors.*

2. How will you know if the school is successful at the end of the first year of operation?

*We should expect a minimum of a break even on budget projections with expectations to meet or exceed our year two enrollment targets. We should also have positive climate surveys in the spring with a lack of turnover.*

3. How will you know at the end of five years if the school is successful?

*A financial report that demonstrates a healthy surplus and contingency fund; a facility that has reached full capacity as proposed in the application; clean audits; increased student academic achievement. We should also see decreased achievement gaps for sub-groups of students with a low attrition of students and staff.*

4. What specific steps do you think the charter school board will need to take to ensure that the school is successful?

*Provide ongoing support and connections with local businesses, community members and policy makers that are invested in the school. Provide personal support for the school leader when needed and provide appropriate monthly and yearly evaluation of the school leadership and the school program to measure its success according to the initial goals written in the application.*

5. How would you handle a situation in which you believe one or more members of the school's board were acting unethically or not in the best interests of the school?

*I expect that we will have policies in place up front to address such matters. Said policies will likely include, but not be limited to, ethics filings signed by all board members. If something unethical occurred I would expect in-person meetings with open, transparent conversations that would discuss the issue and handle the issue with expediency, integrity and transparency.*

\*Please include the following with your Information Form

- a one page resume

\*If you responded within the application that disciplinary action has been taken against any past or present professional licenses, provide a detailed response below outlining the disciplinary action taken and the license validity. [Click or tap here to enter text.](#)

### **Certification**

I, **Randolph S. Voller**, certify to the best of my knowledge and ability that the information I am providing to the North Carolina State Board of Education as a prospective board member for Granite State Charter Academy is true and correct in every respect.

Signature:

DocuSigned by:  
*Randolph Voller* 7/9/2021  
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## Charter School Board Member Information Form

**Note:** To be completed individually by each proposed founding charter school board member. All forms must be signed by hand.

Serving on a public charter school board is a position of public trust and as a board member of a North Carolina public charter school; you are responsible for ensuring the quality of the school's entire program, competent stewardship of public funds, and the school's fulfillment of its public obligations and all terms of its charter.

As part of the application for a new charter school, the State Board of Education requests that each prospective board member respond individually to this questionnaire. Where narrative responses are required, brief responses are sufficient.

The purpose of this questionnaire is twofold: 1) to give application reviewers a clearer introduction to the applicant team behind each school proposal in advance of the applicant interview, in order to be better prepared for the interview; and 2) to encourage board members to reflect individually as well as collectively on their common mission, purposes, and obligations at the earliest stage of school development.

### Background

1. Name of charter school on whose Board of Directors you intend to serve:

Granite State Charter Academy

2. Full name:

Cynthia A. Gittens

Home Address:

1104 1/2 Spaulding St., Raleigh, NC 27610

Business Name and Address:

N/A

Telephone No.:

276-692-5708

E-mail address:

[cindygittenslcsw@gmail.com](mailto:cindygittenslcsw@gmail.com)

3. Brief educational and employment history.

Education: Radford University, Radford, VA

Master's degree in Social Work, May 2006

Bachelor's degree in Social Work, May 2004

Licensure: Licensed Clinical Social Worker, NC Social Work Licensure Board, May 2018-Current

Licensed Clinical Social Worker, Virginia Board of Social Work, March 2017-Current

Licensed School Social Worker, NC State Board of Education, July 2018-Current

Employment: Regional Mental Health Specialist, Contractor, August 2021  
School Social Worker, Voyager Academy, August 2018-May 2021  
School Social Worker, Loudoun County Public Schools, July 2007-July 2018  
Clinician, In Step PC, July 2012-July 2018  
Special Foster Care Social Worker, Northern VA Family Services, 2006-2007  
Special Foster Care Social Worker, Braley & Thompson, 2005-2006

4. Have you previously served on a board of a school district, another charter school, a non-public school or any not-for-profit corporation?

No: X                      Yes:

5. How were you recruited to join this Board of Directors? Why do you wish to serve on the board of the proposed charter school?

Jennifer Lucas, CEO of Alliance Education Services informed me of the opportunity and the vision of the school. Granite State Charter Academy will provide a strong standards based academic foundation for students while introducing technical and occupational knowledge. This is an area that is much needed throughout the State of North Carolina and I am thrilled to support this effort. I have a passion for mental health and ensuring all students are provided with a high quality, inclusive educational experience.

6. What is your understanding of the appropriate role of a public charter school board member?

A board member is an advocate, who focuses on student achievement and implementing policies that will ensure success for all students. Board members are ultimately accountable for the success and growth of the charter school. The collective board provides vision and direction for the charter school. The board is charged with creating policies in accordance with state law to establish standards, accountability and evaluation of essential operations. The board is responsible for hiring, supporting and evaluating the school leader. Alongside the school leader, the board ensures that the necessary foundation is in place for a successful school opening to include facility, financing, procurement of furniture, curriculum, and contracts with expert vendors. The board adopts and oversees the annual budget. Successful boards engage their communities, utilize data and allocate resources as needed.

7. Describe any previous experience you have that is relevant to serving on the charter school's board (e.g., other board service). If you have not had previous experience of this nature, explain why you have the capability to be an effective board member.

Although this will be my first time serving as a board member, as a school social worker for the past 14 years, I have come to understand the role of a school board and have seen first hand what a successful, effective board looks like. My social work values align closely with what is necessary to be an effective board member. What I will bring to this board is my ability to advocate for others, focus on what is in the best interest of All students, communicate and engage communities, treat all with respect and work collaboratively with a team.

8. Describe the specific knowledge and experience that you would bring to the board.
- For the past 14 years, I have been a school social worker. I have had the pleasure of working for both a large public school system in Northern Virginia and a high achieving charter school in North Carolina. My work has provided me with extensive knowledge regarding how to work with diverse populations, establish effective counseling programs, ensure students and staff receive necessary mental health services, and identify and support students who are economically disadvantaged. I am versed in special education and understand the need for integrating social-emotional components into academic instruction. Additionally, as a clinical social worker, I understand clinical diagnoses and have provided individual and group therapy for children and families.

### **School Mission and Program**

1. What is your understanding of the school's mission and guiding beliefs?  
Granite State Charter Academy's mission and vision is to provide an education that is rigorous, relevant, and meaningful to each student in a safe and supportive environment. Subsequently resulting in academic, career and technical excellence. This educational experience encourages lifelong learning, fosters mutual respect and instills social responsibility and respect for diversity and responsible citizenship.
2. What is your understanding of the school's proposed educational program?  
Granite State Charter Academy will open as a K-6 school and will grow one grade level per year. School growth will be determined by the success of the prior school year.
3. What do you believe to be the characteristics of a successful school?  
A successful school is achieved when the board, school leader, faculty and students share a common vision and mission. Leadership is strong and has high expectations of students and staff. There is a belief that all students can be high achievers and that they will perform to the best of their ability. Academic performance and development is constantly monitored and goals are set as to meet the academic needs of students. Curriculum is in line with state standards. The school works as a team and All students and families feel welcome, respected and included in the school community. Students, staff and families are regularly assessed and feedback is utilized to improve school culture and climate. Finally, there is a focus on meeting the mental health and social-emotional needs of staff and students.
4. How will you know that the school is succeeding (or not) in its mission?  
School success can be seen through maintaining full enrollment or obtaining targeted enrollment. Our school community will be engaged; ensuring that All students and families feel welcome and included at Granite State. Student achievement will also be a major component of success. Additionally, positive feedback will be received from staff climate surveys and the school will subsequently have low staff turnover. There will be financial stability and no compliance issues with OCS or the state authorize.

### **Governance**

1. Describe the role that the board will play in the school's operation.

The board is responsible for ensuring that the vision and goals for the school are being met. The board evaluates the school leader to assure that the responsibilities of the position are being achieved. Annual budgets are approved by the board and they set spending priorities. The board interprets data reports to include academics, finance, compliance and other reports that measure the above factors.

2. How will you know if the school is successful at the end of the first year of operation?  
At the end of the first year of operation, Granite State Charter Academy will be successful by breaking even on budget projections and expecting to hit two year enrollment targets. Climate surveys from students, families and staff yield positive results. There is a lack of staff turnover and student attrition.
3. How will you know at the end of five years of the schools is successful?  
At the end of five years, Granite State Charter Academy will have shown success by having a financial report that demonstrates a healthy surplus with a contingency fund. The school will have reached full capacity as written in the application with complete compliance. In regard to academics, data will show increased academic achievement and decreased achievement gaps of sub groups of students.
4. What specific steps do you think the charter school board will need to take to ensure that the school is successful?  
Community engagement will be key. Granite State Charter Academy will establish relationships and provide ongoing support for local businesses, community members and policy makers that are invested in our school. It is of utmost importance that the board supports the school leader, and provides yearly evaluation of the leadership team and school programs to measure success according to the initial goals that were written in the application.
5. How would you handle a situation in which you believe one or more members of the school's board were acting unethically or not in the best interests of the school?  
The board should hold an in-person meeting with open, transparent conversations to discuss and handle the issue with integrity and urgency.

\*Please include the following with your Information Form

- a ***one page*** resume

\*If you responded within the application that disciplinary action has been taken against any past or present professional licenses, provide a detailed response below outlining the disciplinary action taken and the license validity. [Click or tap here to enter text.](#)

### **Certification**

I, Cynthia A. Gittens, certify to the best of my knowledge and ability that the information I am providing to the North Carolina State Board of Education as a prospective board member for Granite State Charter Academy is true and correct in every respect.

Cynthia A. Gitters

---

Signature

7/9/2021

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Date

**Cynthia Gittens, LCSW**

1104.5 Spaulding St., Raleigh, NC 27610 ▪ 276-692-5708 ▪ cindygittenslcsw@gmail.com

Licensure: **Licensed Clinical Social Worker**  
North Carolina Social Work Licensure Board, May 2018-Current

**Licensed Clinical Social Worker**  
Virginia Board of Social Work, March 2017-Current

**Licensed School Social Worker**  
North Carolina State Board of Education, July 2018-Current

Certification: Columbia Suicide Severity Rating Scale (C-SSRS)  
The Virginia Model for Threat Assessment  
PREPaRE  
Restorative Circles & Restorative Conferences

Education: **Radford University**, Radford, VA  
Master's degree in Social Work, May 2006  
Bachelor's degree in Social Work, May 2004

Experience: **Voyager Academy**, Durham, North Carolina 2018-2021

**School Social Worker**

- Member of the administrative leadership team
- McKinney-Vento homeless liaison
- Provides individual and group counseling for grades K-12
- Responds to mental health crises involving students and school staff
- Conducts suicide screenings using the Columbia Suicide Severity Rating Scale (C-SSRS)
- Delivers mental health and academic support presentations to students, school staff and parents
- Enforces the compulsory attendance law to ensure regular attendance for all students
- Coordinates the internship program
- Supervises University of North Carolina at Chapel-Hill (UNC) interns
- Serves as a member of the school-wide Multi-Tiered System of Support (MTSS) team
- Collaborates with parents, outside providers, administrators and school staff to best meet the needs of the students

**In Step PC**, Fairfax, Virginia 2012-2018

**Clinician**

- Facilitated 40-week intensive social skills groups and self-confidence groups with weekly parent feedback
- Provided individual therapy to youth ages 6 to 17
- Formulated and implemented treatment plans with DSM-5 diagnoses
- Direct service provided to children with neurodevelopmental disorders, anxiety disorders, depressive disorders, stressor-related disorders
- Treatment modalities are eclectic but include Cognitive behavioral therapy, Solution focused therapy, Family systems therapy, Strength based therapy

**Loudoun County Public Schools**, Ashburn, Virginia 2007-2018

**School Social Worker**

- Served as a member of the Child Study Team and Eligibility Committee
- Completed sociocultural assessments for special education eligibility process
- Conducted special education assessments driven by Individualized Education Plans
- Provided individual and group counseling for grades K-8 with individualized goals
- Chaired multidisciplinary clinical support teams for students receiving special education services
- Implemented, analyzed and submitted outcome-based data for evidence-based curriculum
- Delivered mental health and substance abuse presentations across grade levels
- Responded to crises involving staff, students, and the community using the PREPaRE model of crisis preparedness and intervention
- Coach for the Positive Behavioral Interventions & Supports (PBIS) program
- Field placement supervisor for MSW intern and senior mentor for new social work staff
- Collaborated with parents, outside providers, administrators, school staff and specialists to best meet the needs of the students
- Served 3 Title I schools

# CARLO GARAY

421 Efland Cedar Grove Road Efland, NC 27243 · 919-697-2863  
[cgaray@cnjheatnair.com](mailto:cgaray@cnjheatnair.com)

Use my extensive experience to help the company achieve its goal of excellence in the field. I am a dedicated and detail-oriented engineer who thrives in a fast-paced environment and is seeking to help.

## TECHNICAL SKILLS

Bilingual: English/Spanish

## EXPERIENCE

AUGUST 1996– JUNE 30, 2006

**PRESIDENT/OWNER, C&J HEATING AND AIR, INC.**

Obtaining contractors license 1996, Manage crews, technicians, prepare work schedules, distributing workloads, managing installations, ordering materials, equipment's and proposals for customers.. Help manage day to day issues in both the field and the office.

AUGUST 1996 – TO

**PROJECT MANAGER/SALESMAN, TILLMAN METRO – ARS HEATING AND AIR**

Repair and maintenance of heating and air equipment. Manage and design sales for heating and air equipment, sale indoor air quality products.

PROMOTED

**SERVICE MANAGER, TILLMAN METRO**

In charge of 12 technician, 4 customer service representatives, prepare work schedule, train new employees, hire staff, prepare weekly financial reports.

**SALES/TECHNICAL/RETAIL MANAGER, TILLMAN METRO**

In charge of personnel, meeting sales quotas, organizing installation crews, working as a field supervisor, purchasing agent, manage office staff.

## EDUCATION

1994-1996

**CERTIFICATIONS, DURHAM TECH. COMMUNITY COLLEGE**  
**INDUSTRIAL ELECTRICITY AND MOTOR CONTROLS**

1978-1981

**MAJOR ACCOUNTING, INSTITUTION CENTERAL HONDURAS**  
Minor in Business math

## Charter School Board Member Information Form

*Note: To be completed individually by each proposed founding charter school board member. All forms must be signed by hand.*

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As part of the application for a new charter school, the State Board of Education requests that each prospective board member respond individually to this questionnaire. Where narrative responses are required, brief responses are sufficient.

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### Background

1. Name of charter school on whose Board of Directors you intend to serve:  
Granite State Charter Academy Board

2. Full name: Carlo R. Garay

Home Address: PO Box 248 Efland, NC 27243

Business Name and Address: C&J Heating and Air, Inc.

Telephone No.: (919)732-3181

E-mail address: sales@cnjheatnair.com

3. Brief educational and employment history.

Employment history: HVAC repair, sales, services, installation

4. Have you previously served on a board of a school district, another charter school, a non-public school or any not-for-profit corporation?

No:

Yes

5. How were you recruited to join this Board of Directors? Why do you wish to serve on the board of the proposed charter school?

Recruited by a fellow member, education is very important for me, learning a trade is very important, I would like to reinforce the trade.

6. What is your understanding of the appropriate role of a public charter school board member?  
To oversee and make sure the policies of the school, work with the school administration to support day to day operation of the school.

A Board member is ultimately accountable for the success and growth of the charter school. The Board collectively creates policies and procedures by which the School and the School leader are directed to follow. The Board hires the School leader and provides him/her with a set of policies, expectations and goals for the charter school and then provides support for that person to meet those goals through resources; financial and human, and ensures that the primary foundation for success are handled prior to the school opening which includes facility, financing, procurement of furniture, curriculum etc. and helps contract with expert vendors to create a lunch program, transportation and other necessary functions of a school.

7. Describe any previous experience you have that is relevant to serving on the charter school's board (e.g., other board service). If you have not had previous experience of this nature, explain why you have the capability to be an effective board member.  
Maintaining the school's vision to promote education and improve growth.
8. Describe the specific knowledge and experience that you would bring to the board.  
I would bring my organization, planning, monitor and managing financial skills.

### **School Mission and Program**

1. What is your understanding of the school's mission and guiding beliefs?  
Inspiring excellence nurturing and excellence.
2. What is your understanding of the school's proposed educational program?  
K-8 charter school that opens K-6 and grows one grade level per year. Each successful year will determine how much the school grows.
3. What do you believe to be the characteristics of a successful school?  
Easy accessibility with teacher interactions, load distractions, encouragement from the staff to help motivate learning.
4. How will you know that the school is succeeding (or not) in its mission?  
maintaining full enrollment (or hitting enrollment targets) low staff turnover, low student attrition, positive climate surveys, financial stability, no compliance issues with the OCS or state authorizer. Ultimately, student achievement also drives this success.

### **Governance**

1. Describe the role that the board will play in the school's operation.  
Oversight, accountability, evaluating the school leader, interpreting data reports that include academics, finance, compliance and other reports that measure the above factors.
2. How will you know if the school is successful at the end of the first year of operation?

3. How will you know at the end of five years of the schools is successful?  
A financial report that demonstrates a healthy surplus and contingency fund, a facility that has reached full capacity as written in the application, clean audits, increased student academic achievement. Decreased achievement gaps for subgroups of students. Low attrition of students and staff.
  
4. What specific steps do you think the charter school board will need to take to ensure that the school is successful?  
Provide ongoing support and connections with local businesses, community members and policy makers that are invested in the school. Provide personal support for the school leader when needed and provide appropriate monthly and yearly evaluation of the school leadership and the school program to measure its success according to the initial goals written in the application.
  
5. How would you handle a situation in which you believe one or more members of the school's board were acting unethically or not in the best interests of the school?  
An in-person meeting with open, transparent conversations will be held to discuss the issue and handle the issue with expediency and integrity.

\*Please include the following with your Information Form

- a **one page** resume

\*If you responded within the application that disciplinary action has been taken against any past or present professional licenses, provide a detailed response below outlining the disciplinary action taken and the license validity. [Click or tap here to enter text.](#)

**Certification**

I, Carlo Garay, certify to the best of my knowledge and ability that the information I am providing to the North Carolina State Board of Education as a prospective board member for \_\_\_\_\_ Charter School is true and correct in every respect.



Signature

Date

**HOLLY FRACCARO**  
**1322 HIGH RIDGE DRIVE**  
**MEBANE, NORTH CAROLINA 27302**  
**EMAIL: hfracarro@gmail.com PHONE: (919) 265-9350**

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**EXPERIENCE**

**HOME BUILDERS ASSOCIATION-**

**DURHAM, ORANGE & CHATHAM COUNTIES (HBA DOC)**

*CHIEF EXECUTIVE OFFICER*

**DURHAM, NORTH CAROLINA**

*OCTOBER, 2013 – PRESENT*

- CEO for one of the largest Home Builders Associations (HBA) in North Carolina.
- Executive Director of the HBA DOC Foundation, a not-for-profit charitable organization.
- Responsible for an annual combined (Association + Foundation) budget of ~\$1M.
- Developing a 5-trade summer pre-apprenticeship career academy (Carpentry, HVAC, Electrical, Plumbing, Masonry).
- Created the Future of Builders of the Triangle Club, a venue for high school students seeking trade-related training and mentorship.
- Report to a twenty-two member Board of Directors.
- Recipient- North Carolina Home Builders Association New Executive Officer of the Year Award, September 2014.
- Recipient- National Association of Home Builders, Professional Women in Building Executive Officer of the Year, January 2016.
- Recipient- National Association of Home Builders, New Executive Officer of the Year, July 2016.

**ASOCIACION DE DESARROLLA INTEGRAL  
DE COMUNIDAD DE PLAYAS DEL COCO (ADICOCO)**

*VOLUNTEER DEVELOPMENT SPECIALIST & GRANT WRITER*

**PLAYAS DEL COCO**

**GUANACASTE, COSTA RICA**

*JANUARY 2011 – MAY 2015*

- Consulted on community development issues which impact the health of Guanacaste Region Eco-tourism.

**NORTH WEST HOUSING PARTNERSHIP (NWHP)**

*EXECUTIVE DIRECTOR*

**SCHAUMBURG, ILLINOIS**

*FEBRUARY, 2005 – OCTOBER, 2013*

- Chief Executive Officer for one of the largest nonprofit housing developers in the Chicago metropolitan area.

**SINGLE ROOM HOUSING ASSISTANCE CORPORATION (SRHAC)**

*EXECUTIVE DIRECTOR*

**CHICAGO, ILLINOIS**

*AUGUST, 1999 – DECEMBER, 2004*

- Chief Executive Officer of nonprofit organization providing affordable supportive housing to previously homeless men and women.

**EDUCATION**

**ADLER SCHOOL OF PROFESSIONAL PSYCHOLOGY**

**MASTER OF ARTS, COUNSELING PSYCHOLOGY**

(3.8 GPA/4.0)

**CHICAGO, ILLINOIS**

**MAY 1997**

**UNIVERSITY OF NORTH DAKOTA**

**BACHELOR OF ARTS, PSYCHOLOGY**

GRADUATED MAGNA CUM LAUDE (3.8 GPA/4.0)

**GRAND FORKS, NORTH DAKOTA**

**MAY 1995**

## Charter School Board Member Information Form

*Note: To be completed individually by each proposed founding charter school board member. All forms must be signed by hand.*

Serving on a public charter school board is a position of public trust and as a board member of a North Carolina public charter school; you are responsible for ensuring the quality of the school's entire program, competent stewardship of public funds, and the school's fulfillment of its public obligations and all terms of its charter.

As part of the application for a new charter school, the State Board of Education requests that each prospective board member respond individually to this questionnaire. Where narrative responses are required, brief responses are sufficient.

The purpose of this questionnaire is twofold: 1) to give application reviewers a clearer introduction to the applicant team behind each school proposal in advance of the applicant interview, in order to be better prepared for the interview; and 2) to encourage board members to reflect individually as well as collectively on their common mission, purposes, and obligations at the earliest stage of school development.

### Background

1. Name of charter school on whose Board of Directors you intend to serve: Granite State Charter Academy

2. Full name: Holly Fraccaro

Home Address: 1322 High Ridge Drive, Mebane NC 27302

Business Name and Address: Home Builders Association of Durham, Orange & Chatham Counties

Telephone No.: 919-493-8899

E-mail address: holly@hbadoc.com

3. Brief educational and employment history.

MA, Counseling Psychology (1997, Adler School of Professional Psychology, now Adler University),

BA, Psychology (1995, University of North Dakota)

Home Builders Association of Durham, Orange & Chatham Counties (NC), 2013 – Present  
North West Housing Partnership, Chicago IL 2004-2013

4. Have you previously served on a board of a school district, another charter school, a non-public school or any not-for-profit corporation?

No:

Yes:

5. How were you recruited to join this Board of Directors? Why do you wish to serve on the board of the proposed charter school?

I was invited by Steve Griffin to join the working group, from which the formal board was created. In my work through the Home Builders Association, I have become very active in our local school's Career & Technical Education programs. With the rapid growth seen here in the triangle, we are always looking to better the school choices available to families moving to the area.

6. What is your understanding of the appropriate role of a public charter school board member?

I have served on many nonprofit boards and have spent my entire life working in the nonprofit sector (the Home Builders Association is a 501c6). A Board Member is responsible for the growth and success of an organization, and adherence to its mission statement. I see the role of a charter school board member as being responsible for the mission of the school, and access to public education for all students. I understand that the Board will create policies and procedures to support the mission. The Board hires the School leader and provides him/her with a set of policies, expectations and goals for the charter school and then provides support for that person to meet those goals through resources; financial and human, and ensures that the primary foundation for success are in place to support the school and staff.

7. Describe any previous experience you have that is relevant to serving on the charter school's board (e.g., other board service). If you have not had previous experience of this nature, explain why you have the capability to be an effective board member.

I currently serve on several local school district's CTE advisory boards; I have been newly appointed to the Inter-Church Housing Council Board of Directors, which is a nonprofit affordable housing organization. In my career I have served on several nonprofit or municipal boards including: Housing Advisory Board (Chapel Hill, NC), HBA Executive Officers Council (NC and Washington, DC) and Rebuilding Together (NW Suburban, Chicago).

8. Describe the specific knowledge and experience that you would bring to the board.

With a 20 plus year career as a nonprofit executive I bring a wealth of experience in nonprofit policy and governance. I have been elected chair to many of the boards I have served on and am experienced at Robert's Rules of Order. I understand how to read a financial statement and the importance of the board packet that reports out the activities of the school, so that the board can ensure it is meeting its mission.

### **School Mission and Program**

1. What is your understanding of the school's mission and guiding beliefs?

Our mission at Granite State Charter Academy is to provide an education that is rigorous, relevant, and meaningful to each student in a safe and supportive environment.

Our educational experience encourages lifelong learning, fosters mutual respect, and instills admiration for diversity and being a responsible citizen.

We recognize that North Carolina attracts and successfully recruits new business and industry to our state and region. We endeavor to educate a well-prepared workforce to meet these demands of our growing state.

## Core Values

Our Core Values are to prepare students for academic achievement as well as to further vocational and technical education:

**Grow** our learning and trades skills.

**Reinforce** related learning disciplines.

**Achievement** by hard work and a sense of accomplishment.

**New** educational methods to better prepare our workforce.

**Innovation** in learning about new trades.

**Technical** skills to immediately seek employment opportunities.

**Excellence** in career technical education.

2. What is your understanding of the school's proposed educational program?  
K-8 charter school that opens K-6 and grows one grade level per year. Each successful year will determine how much the school grows.
3. What do you believe to be the characteristics of a successful school?  
Diversity, Inclusion, Access to all. A successful school recognizes that its students will present unique ways of learning and the school will adapt to teach in a way that reaches all of them.
4. How will you know that the school is succeeding (or not) in its mission?  
Achieving enrollment targets, maintaining a strong staff, including a leader that motivates and empowers its staff (from teachers to cafeteria & maintenance staff) positive parental surveys, having a waiting list and meeting all of its financial obligations.

## Governance

1. Describe the role that the board will play in the school's operation.  
Oversight, accountability, evaluating the school leader, interpreting data reports that include academics, finance, compliance and other reports that measure the above factors.
2. How will you know if the school is successful at the end of the first year of operation?  
Meeting all of the budget projections and enrollment targets and low turnover of staff, students exceeding annual testing goals and positive parental surveys.

3. How will you know at the end of five years of the schools is successful?  
A financial report that demonstrates a healthy surplus and a strong facility that has reached full capacity as written in the application, clean audits, increased student academic achievement. Decreased achievement gaps for sub-groups of students. Low attrition of students and staff.
4. What specific steps do you think the charter school board will need to take to ensure that the school is successful?  
Provide ongoing support and connections with local businesses, community members and policy makers that are invested in the school. Provide personal support for the school leader when needed and provide appropriate monthly and yearly evaluation of the school leadership and the school program to measure its success according to the initial goals written in the application.
5. How would you handle a situation in which you believe one or more members of the school's board were acting unethically or not in the best interests of the school?  
I would request an in-person meeting, and address the situation with open, transparent, nonreactive conversation to discuss the issue and handle it with professionalism, keeping the school's best interest as the top priority.

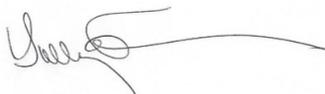
\*Please include the following with your Information Form

- a **one page** resume

\*If you responded within the application that disciplinary action has been taken against any past or present professional licenses, provide a detailed response below outlining the disciplinary action taken and the license validity. [Click or tap here to enter text.](#)

**Certification**

I, Holly Fraccaro, certify to the best of my knowledge and ability that the information I am providing to the North Carolina State Board of Education as a prospective board member for Granite State Charter Academy Charter School is true and correct in every respect.

Signature: 

Date: July 7, 2021

### Charter School Board Member Information Form

*Note: To be completed individually by each proposed founding charter school board member. All forms must be signed by hand.*

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As part of the application for a new charter school, the State Board of Education requests that each prospective board member respond individually to this questionnaire. Where narrative responses are required, brief responses are sufficient.

The purpose of this questionnaire is twofold: 1) to give application reviewers a clearer introduction to the applicant team behind each school proposal in advance of the applicant interview, in order to be better prepared for the interview; and 2) to encourage board members to reflect individually as well as collectively on their common mission, purposes, and obligations at the earliest stage of school development.

#### Background

- 1.
2. Name of charter school on whose Board of Directors you intend to serve:  
Granite State Charter Academy

3. Full name: Laura Coleman Howell

Home Address: 1218 East Hardscrabble Drive  
Hillsborough, NC 27278

Business Name and Address: Voyager Academy  
101 Hock Parc  
Durham, NC 27704

Telephone No.: 919 451-6444

E-mail address: lfchowell@gmail.com

4. Brief educational and employment history.  
BS Family and Consumer Science Education from East Carolina University, Greenville, NC  
I have worked in an educational setting as a teacher, counselor and test coordinator for the past 28 years

Have you previously served on a board of a school district, another charter school, a non-public school or any not-for-profit corporation?

No:  Yes:

5. How were you recruited to join this Board of Directors? Why do you wish to serve on the board of the proposed charter school?

I was approached by Jennifer Lucas to meet with a group of people that were interested in opening a new Charter School in the quickly growing Chatham County area. She knew that I had previously served on the board of Voyager Academy and that I have a strong background in Charter School requirements and several years of experience as the accountability coordinator at Voyager. I have seen the huge growth in the Triangle Area spill over into the surrounding counties. Each year we have over 2,000 families apply to Voyager with only a little over 100 seats available. I feel there is a need to extend more Charter School opportunities for families that are looking for alternatives.

6. What is your understanding of the appropriate role of a public charter school board member?

A Board member is ultimately accountable for the success and growth of the charter school. The Board collectively creates policies and procedures by which the School and the School leader are directed to follow. The Board hires the School leader and provides him/her with a set of policies, expectations and goals for the charter school and then provides support for that person to meet those goals through resources; financial and human, and ensures that the primary foundation for success are handled prior to the school opening which includes facility, financing, procurement of furniture, curriculum, etc and helps contract with expert vendors to create a lunch program, transportation and other necessary functions of a school.

6. Describe any previous experience you have that is relevant to serving on the charter school's board (e.g., other board service). If you have not had previous experience of this nature, explain why you have the capability to be an effective board member.

I have 28 years of experience in public school education. I am currently the Testing and Accountability Coordinator at Voyager Academy. I believe I have a broad base of knowledge that will be essential to getting this school started. I also served on the board of Voyager Academy in its early years and assisted in writing the request to expand from a 4th-8th grade school to include grades 9-12.

7. Describe the specific knowledge and experience that you would bring to the board.

As the Testing and Accountability Coordinator, I am aware of the many requirements public schools are responsible for reporting. I believe this experience will be very helpful when creating policies and expectations for the school.

### **School Mission and Program**

1. What is your understanding of the school's mission and guiding beliefs?

To provide a rigorous and relevant education in a safe, supportive environment. Granite State will promote lifelong learning, social responsibility and respect for diversity.

2. What is your understanding of the school's proposed educational program?  
Granite State will be a K-8 Charter school that will open as K-6 and add one grade level each year.
3. What do you believe to be the characteristics of a successful school?  
Any successful school should have a clear mission that is understood by staff, students and families. There should be high expectations for staff and students, opportunities for parent engagement and a strong support system in place for all teachers.
4. How will you know that the school is succeeding (or not) in its mission?  
By maintaining full enrollment (or hitting enrollment targets) low staff turnover, low student attrition, positive climate surveys, financial stability, no compliance issues with the OCS or state authorizer. Ultimately, student achievement also drives this success.

### **Governance**

1. Describe the role that the board will play in the school's operation.  
Oversight, accountability, evaluating the school leader, interpreting data reports that include academics, finance, compliance and other reports that measure the above factors.
2. How will you know if the school is successful at the end of the first year of operation?  
A minimum of a break even on budget projections, expectations to hit year 2 enrollment targets, positive climate surveys from the spring. Lack of turn over.
3. How will you know at the end of five years if the school is successful?  
A financial report that demonstrates a healthy surplus and contingency fund, a facility that has reached full capacity as written in the application, clean audits, increased student academic achievement. Decreased achievement gaps for subgroups of students. Low attrition of students and staff.
4. What specific steps do you think the charter school board will need to take to ensure that the school is successful?  
Provide ongoing support and connections with local businesses, community members and policy makers that are invested in the school. Provide personal support for the school leader when needed and provide appropriate monthly and yearly evaluation of the school leadership and the school program to measure its success according to the initial goals written in the application.

5. How would you handle a situation in which you believe one or more members of the school's board were acting unethically or not in the best interests of the school?

An in-person meeting with open, transparent conversations will be held to discuss the issue and handle the issue with expediency and integrity.

\*Please include the following with your Information Form  
**a one page resume**

\*If you responded within the application that disciplinary action has been taken against any past or present professional licenses, provide a detailed response below outlining the disciplinary action taken and the license validity. [Click or tap here to enter text.](#)

**Certification**

I, \_\_\_\_\_ Laura Howell \_\_\_\_\_, certify to the best of my knowledge and ability that the information I am providing to the North Carolina State Board of Education as a prospective board member for \_\_\_ Granite State Academy \_\_\_ Charter School is true and correct in every respect.

Signature

*Laura C. Howell*

Date: 07/08/2021

## Laura Howell

1218 East Hardscrabble Drive Hillsborough, NC 27278 919 451-6444 lfchowell@gmail.com

### Special Skills and Capabilities

- Excellent interpersonal skills
- Profound communication skills (verbal, written, listening and presentation)
- High level of time management and organizational skills

### Experience K-12 Testing and Accountability Coordinator

8/1/2013-present Voyager Academy, Durham, NC

- Oversee test materials, ordering and staff training
- Plan and organize all state mandated testing
- Collaborate with Managing Director to provide accurate data to state
- Enter test results data into a database to generate corresponding reports
- Analyze school-wide data
- Collaborate with Exceptional Children and English as a Second Language staff to ensure appropriate ADA and IDEA for students
- Coordinate and implement the process of registering students for online assessments
- Evaluate and communicate progress throughout testing process, make suggestions for improvements with services and programs
- Assist with budget for testing and Staff Development

### Family and Consumer Science Teacher/CTE Department Instructional Facilitator

2/10/2011-6/15/2013 South Central High School, Greenville, NC

- Performed all required teaching duties such as classroom management, PowerSchool attendance/ grade submission and online lesson planning based on test data analysis
- Served as the CTE Department Instructional Facilitator where I assisted teachers with curriculum alignment, equipment inventory, purchase orders and requisitions
- Coordinated staff development activities that included topics such as Common Core Curriculum, Critical Thinking Strategies and Project Based Learning

### Career Development Coordinator

7/1/2001-6/30/2008 Northern High School, Durham, NC

- Coordinated the high school registration process and Pathway transfer applications for students
- Worked closely with students, families and guidance counselors to complete college applications and/or post-graduation career plans
- Supervised all CTE internships
- Served as CTE Department Chair and was responsible for all CTE teacher observations and evaluations
- Coordinated and administered all VoCats testing, career planning testing and college placement testing
- Conducted classroom guidance on topics such as personal responsibility, goal setting and study skills

### Family and Consumer Science Teacher

- 10/29/1990- 6/30/2001 Northern High School, Durham, NC
- Performed all required teaching duties including lesson planning, curriculum alignment based on testing data, classroom management and VoCats preparation
- Served on the FACS State Management Team and Testing Validation/Curriculum Development Teams
- CTE Department Chair and CTE representative for systemwide Site-Based Decision-Making Committee
- Extra-curricular duties included Prom Advisor, JV cheerleading coach and the School Hospitality Committee Chair

### Education

East Carolina University Greenville, NC 1985-1989

BS Home Economics in Business and Education (concentration of Apparel/Interior Design)

North Carolina Department of Public Instruction 1-5/2005 -Career Development Counselor Certification

### Organizations

The Debutante Ball Society of Durham and Orange Counties (2003-present)

\*Society Events Chair

\*Corresponding Secretary

Voyager Academy Charter School Board Member (2008-2009)

Alpha Delta Kappa - Honorary Teacher Sorority (1993-2013)

## Charter School Board Member Information Form

*Note: To be completed individually by each proposed founding charter school board member. All forms must be signed by hand.*

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The purpose of this questionnaire is twofold: 1) to give application reviewers a clearer introduction to the applicant team behind each school proposal in advance of the applicant interview, in order to be better prepared for the interview; and 2) to encourage board members to reflect individually as well as collectively on their common mission, purposes, and obligations at the earliest stage of school development.

### Background

1. Name of charter school on whose Board of Directors you intend to serve:

Granite State Charter School

2. Full name:

Samuel Fiske Edson

Home Address: 4020 Bristol Rd. Durham, NC 27707

Business Name and Address: Granite State Electric LLC. 11312 US 15-501 North, Suit 107/202  
Chapel Hill, NC 27517-6377

Telephone No.: (919) 943-9779

E-mail address: samuel.edson71@gmail.com

3. Brief educational and employment history.

Completed one year at Western Carolina University (2012-2013), left to pursue trades.  
Electrical Contractor/Foreman (2014-present)

4. Have you previously served on a board of a school district, another charter school, a non-public school or any not-for-profit corporation?

No:  Yes:

5. How were you recruited to join this Board of Directors? Why do you wish to serve on the board of the proposed charter school?

I was recruited to join this Board of Directors from my neighbor, Steve Griffin. I wish to serve on the board because I'm keenly interested in promoting the trades. I wish to help children learn that the trades are a viable option after high school. Additionally, the average

age of an electrician is currently 58 years. There needs to be a concentrated intentional effort to promote, educate and grow the trades.

6. What is your understanding of the appropriate role of a public charter school board member?

A Board member is ultimately accountable for the success and growth of the charter school. The Board collectively creates policies and procedures by which the School and the School leader are directed to follow. The Board hires the School leader and provides him/her with a set of policies, expectations and goals for the charter school and then provides support for that person to meet those goals through resources; financial and human, and ensures that the primary foundation for success are handled prior to the school opening which includes facility, financing, procurement of furniture, curriculum etc and helps contract with expert vendors to create a lunch program, transportation and other necessary functions of a school.

7. Describe any previous experience you have that is relevant to serving on the charter school's board (e.g., other board service). If you have not had previous experience of this nature, explain why you have the capability to be an effective board member.

As someone who is active in the trades, I will be able to bring my experience of the trade to help form the vision and a strategic direction for the school.

8. Describe the specific knowledge and experience that you would bring to the board.

The knowledge and experience that I would bring to the board is a thorough understanding of how the trades work as well as passion and creative ideas.

### **School Mission and Program**

1. What is your understanding of the school's mission and guiding beliefs?

It is my understanding that this school will show children that it is possible to find success in life without feeling the pressure to attend universities. Teaching kids the core classes as well as a foundation for multiple trades

2. What is your understanding of the school's proposed educational program?

K-8 charter school that opens K-6 and grows one grade level per year. Each successful year will determine how much the school grows.

3. What do you believe to be the characteristics of a successful school?

One that engages students, and where teachers and students are passionate and successful.

4. How will you know that the school is succeeding (or not) in its mission?

maintaining full enrollment (or hitting enrollment targets) low staff turnover, low student attrition, positive climate surveys, financial stability, no compliance issues with the OCS or state authorizer. Ultimately, student achievement also drives this success.

## Governance

1. Describe the role that the board will play in the school's operation.  
Oversight, accountability, evaluating the school leader, interpreting data reports that include academics, finance, compliance and other reports that measure the above factors.
2. How will you know if the school is successful at the end of the first year of operation?  
A minimum of a break even on budget projections, expectations to hit year 2 enrollment targets, positive climate surveys from the spring. Lack of turn over.
3. How will you know at the end of five years of the schools is successful?  
A financial report that demonstrates a healthy surplus and contingency fund, a facility that has reached full capacity as written in the application, clean audits, increased student academic achievement. Decreased achievement gaps for sub groups of students. Low attrition of students and staff.
4. What specific steps do you think the charter school board will need to take to ensure that the school is successful?  
Provide ongoing support and connections with local businesses, community members and policy makers that are invested in the school. Provide personal support for the school leader when needed and provide appropriate monthly and yearly evaluation of the school leadership and the school program to measure its success according to the initial goals written in the application.
5. How would you handle a situation in which you believe one or more members of the school's board were acting unethically or not in the best interests of the school?  
An in-person meeting with open, transparent conversations will be held to discuss the issue and handle the issue with expediency and integrity.

\*Please include the following with your Information Form

- a **one page** resume

\*If you responded within the application that disciplinary action has been taken against any past or present professional licenses, provide a detailed response below outlining the disciplinary action taken and the license validity. [Click or tap here to enter text.](#)

### **Certification**

I, Samuel F. Edson, certify to the best of my knowledge and ability that the information I am providing to the North Carolina State Board of Education as a prospective board member for Granite State Charter School is true and correct in every respect.

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Signature   
Date 4/7/2022

2016 – PRESENT  
2016 – PRESENT

# SAMUEL EDSON

Electrical Contractor

Granite State Electric

Supervisor / Foreman

## PROFILE

Skilled electrical contractor, problem solver and aspiring business owner. Experienced in residential and commercial wiring with excellent customer satisfaction.

## CONTACT

 (919) 943-9779

 4020 Bristol Road, Durham, NC, 27707

 [Samuel.Edson71@gmail.com](mailto:Samuel.Edson71@gmail.com)

## EXPERIENCE

### Snyder Hankins

*Handyman* 2012 – 2013

Managed and maintained jobsites, installed hardware, and coordinated tradesmen

### Atkins Electric

*Apprentice* 2013-2014

Apprentice for a residential electrical contractor. Gained general knowledge and experience with residential wiring.

### Granite State Electric

*Apprentice* 2014 – 2016

Gained experience and knowledge in both residential and commercial wiring.

Responsibilities include acquisition of supplies, estimation, project planning and execution.

Developed and maintained customer relationships.

*Foreman / Supervisor* 2016 – Present

Managed jobs, on time and on budget  
Manage, train and coach team members  
Customers request for future projects

## SKILLS

- Managing accounts, projects, and team members
- Involved with gathering supply and estimation of projects
- Proficient in electrical design and maintenance
- Experience with Residential and Commercial clients

## EDUCATION

### Durham School of the Arts

2008-2012

Graduated from Durham School of the Arts with a focus in photography

### Western North Carolina

### University

2012-2013

## Charter School Board Member Information Form

*Note: To be completed individually by each proposed founding charter school board member. All forms must be signed by hand.*

Serving on a public charter school board is a position of public trust and as a board member of a North Carolina public charter school; you are responsible for ensuring the quality of the school's entire program, competent stewardship of public funds, and the school's fulfillment of its public obligations and all terms of its charter.

As part of the application for a new charter school, the State Board of Education requests that each prospective board member respond individually to this questionnaire. Where narrative responses are required, brief responses are sufficient.

The purpose of this questionnaire is twofold: 1) to give application reviewers a clearer introduction to the applicant team behind each school proposal in advance of the applicant interview, in order to be better prepared for the interview; and 2) to encourage board members to reflect individually as well as collectively on their common mission, purposes, and obligations at the earliest stage of school development.

### Background

1. Name of charter school on whose Board of Directors you intend to serve: Granite State Charter Academy

2. Full name: Stephen E Griffin

Home Address: 4018 Bristol Road Durham, NC 27707

Business Name and Address: Insurance People of NC, Inc PO Box 3006 Durham, 27715

Telephone No.: 919-383-0442

E-mail address: steve@inspeople.com

3. Brief educational and employment history.

BA UNCW 1982, Insurance People of NC-1986

4. Have you previously served on a board of a school district, another charter school, a non-public school or any not-for-profit corporation? Yes, Board of Trustee-North Carolina School of Science & Math 2013-2021, Chairman North Carolina Educational Workforce Innovation Commission 2021. Board of Directors for Home Builders Association of Durham, Orange and Chatham Counties 2021

No:

Yes:

5. How were you recruited to join this Board of Directors? Why do you wish to serve on the board of the proposed charter school? Yes- Founding Board Member

6. What is your understanding of the appropriate role of a public charter school board member?  
As a Charter School Board member our role is govern the school with the goal to assist the school with academic and enrollment growth. The Board's role is to establish and follow the policies and procedures by which the School and the School leader are directed to follow for the laws of our North Carolina. The Board hires the School leader and provides him/her with a set of policies, expectations and goals for the charter school and then provides support for that person to meet those goals through resources; financial and human, and ensures that the primary foundation for success are handled prior to the school opening which includes facility, financing, procurement of furniture, curriculum. Also assist with expert vendors to create a lunch program, transportation and other necessary functions of a school.
7. Describe any previous experience you have that is relevant to serving on the charter school's board (e.g., other board service). If you have not had previous experience of this nature, explain why you have the capability to be an effective board member.  
Serve Eight years as a Board of Trustee for NCSSM
8. Describe the specific knowledge and experience that you would bring to the board.  
I have owned and operated an insurance agency for over 36 years. I will bring my successful business practices and experience to properly oversee the a fiscally sound school budget.

### **School Mission and Program**

1. What is your understanding of the school's mission and guiding beliefs?  
Our Mission & Vision at Granite State Charter Academy is to provide an Education that is Rigorous, Relevant and Meaningful to each student in a safe, and supportive environment. Resulting in Academic and Technical Educational Excellence.
2. What is your understanding of the school's proposed educational program?  
K-8 charter school that opens K-6 and grows one grade level per year. Each successful year will determine how much the school grows.
3. What do you believe to be the characteristics of a successful school?  
Great School Board, Great Head of School that hires and supports the best teachers. These 3 crucial factors are the key to unlock a highly successful academic and well rounded student.
4. How will you know that the school is succeeding (or not) in its mission?  
maintaining full enrollment (or hitting enrollment targets) low staff turnover, low student attrition, positive climate surveys, financial stability, no compliance issues

with the OCS or state authorizer. Ultimately, student achievement also drives this success.

## **Governance**

1. Describe the role that the board will play in the school's operation.  
Oversight, accountability, evaluating the school leader, interpreting data reports that include academics, finance, compliance and other reports that measure the above factors. Advocate and expand community as well as financial support as needed through connecting the school to other sources of support as needed.
2. How will you know if the school is successful at the end of the first year of operation?  
A minimum of a break even on budget projections, expectations to hit year 2 enrollment targets, positive climate surveys from the spring. Lack of turn over.
3. How will you know at the end of five years of the schools is successful?  
A financial report that demonstrates a healthy surplus and contingency fund, a facility that has reached full capacity as written in the application, clean audits, increased student academic achievement. Decreased achievement gaps for sub groups of students. Low attrition of students and staff.
4. What specific steps do you think the charter school board will need to take to ensure that the school is successful?  
Provide ongoing support and connections with local businesses, community members and policy makers that are invested in the school. Provide personal support for the school leader when needed and provide appropriate monthly and yearly evaluation of the school leadership and the school program to measure its success according to the initial goals written in the application.
5. How would you handle a situation in which you believe one or more members of the school's board were acting unethically or not in the best interests of the school?  
An in-person meeting with open, transparent conversations will be held to discuss the issue and handle the issue with expediency and integrity.

\*Please include the following with your Information Form

- a ***one page*** resume

\*If you responded within the application that disciplinary action has been taken against any past or present professional licenses, provide a detailed response below outlining the disciplinary action taken and the license validity. [Click or tap here to enter text.](#)

## **Certification**

I, \_\_\_\_\_ Stephen E Griffin \_\_\_\_\_, certify to the best of my knowledge and ability that the information I am providing to the North Carolina State Board of Education as a prospective board member for Granite State Charter Academy is true and correct in every respect.

*Step E Suff*

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Signature  
Date

JULY 6, 2021

# **Stephen E. Griffin**

4018 Bristol Rd.  
Durham, NC 27707

## **SUMMARY**

In excess of 36 years of property, casualty, life, accident and health insurance experience with responsibilities including marketing, procurement and placement of all types of insurance. Evaluate risks and exposures and recommend appropriate coverages.

## **EXPERIENCE**

1989- Present

### **Insurance People of North Carolina, Inc., Durham, NC President**

- Oversee all aspects of commercial lines, personal lines, and benefits departments as well as oversee all duties of the administrative staff.

1985-1989

### **Home Insurance Agency, Inc.**

## **EDUCATION**

University of North Carolina at Wilmington, B. A. degree in Speech Communications, 1982  
Graduate of Durham Jordan High School, 1978

## **INSURANCE DESIGNATIONS**

Licensed in property, casualty, life, accident, and health.  
AAI (Accredited Advisor in Insurance) Designation, 1988  
Graduate of the Institute of Insurance  
Graduate of Travelers Commercial Lines School  
Certified Work Comp Specialist, Certified Risk Architect

## **COMMUNITY INVOLVEMENT**

- Active member of the Independent Insurance Agents of North Carolina and currently serving on the IIANC Governmental Affairs Committee.
- Serving on the HBA - DOC Board of Directors and Executive Board of Directors.
- Member of State of North Carolina Insurance Committee
- Founding board member for the Lincoln Community Health Center Foundation to raise funds and awareness to support the medical cost and expenses of the patients visiting our health clinic.
- Chairman of the Governmental Affairs Committee for the NC Public Charter School Association.
- Former member Board of Trustees to the North Carolina School of Math and Science 2014 - 2021.
- Chairman of the North Carolina Educational Workforce Innovation Commission
- Past Vice-President of Durham Interfaith Hospitality Network

Granite State Charter Academy  
Appendix J  
Bylaws  
Conflict of Interest Policy

**GRANITE STATE CHARTER  
SCHOOL INC.  
BYLAWS  
ARTICLE 1**

Name, Purpose, and Limitations

**Section 1 – Name and Seal**

The name of the corporation is Granite State Charter Academy, Inc. The seal of Granite State Charter Academy, Inc. will include the name and school coat of arms. Validity of all official documents must have the seal affixed.

**Section 2 – Purpose**

The purposes of the corporation shall be:

- a. To provide an education that is Rigorous, Relevant, and Meaningful to each student in a safe, and supportive environment, resulting in Academic, Career, and Technical Excellence.
- b. To operate a charter school pursuant to Charter 115C, Sections 238.29A et seq. of the General Statutes of North Carolina, entitled “Charter Schools,” and the general amendments thereto, and to ensure that the corporation shall have all the powers given to charter schools therein as well as all the powers given to nonprofit organizations in Charter 55A of the General Statutes of North Carolina, entitled “Non-Profit Corporation Act,” and the general amendments thereto.
- c. The purposes for which the corporation is organized are exclusively for one or more reasons within the meaning of Section 501(c)(3) of the Internal Revenue Code.

**Section 3 – Limitations**

The corporation is a non-profit corporation and no part of the net earnings of the corporation shall go to the benefit of, or be distributable to its members, trustees, officers or other private persons. The nonprofit affirms, as a condition of the charter, that the governing Board Members receive no compensation other than reimbursement of reasonable expenses incurred while fulfilling duties as a member of the Board.

ARTICLE II Offices

The principal office of the corporation shall be permanently located in Chatham County, NC. The Board of Directors may establish additional offices, and the location of the principal office and the number and location of any additional offices may, from time to time, be otherwise designated and changed by the Board of Directors.

ARTICLE III Members

Granite State Charter Academy shall have NO members, certificate holders, or shareholders. All functions and affairs of the corporation shall be directed entirely by the Board of Directors.

ARTICLE IV Board of Directors

## **Section 1 – General Powers**

The property and affairs of Granite State Charter Academy shall be managed and controlled by the Board of Directors.

## **Section 2 – Board of Directors and Election of Officers**

- The Board of Directors shall consist of at least five (5) but not more than eleven (11) Board Members.
- A community member with no current affiliation with the school will fill at least one position.
- Employees may not serve as Board Members.
- All Board Members have one vote in Board decisions.
- The Board of Directors shall be elected at the annual meeting of the corporation and newly elected members shall take their position and be installed as voting members of the Board at the moment the August Board meeting is called to order, at the beginning of the August meeting, to serve for the following Fiscal Year for the length of their term.
- Officers for the Board shall also be elected at the August meeting of the Board of Directors each year by the Board of Directors by simple majority vote after the newly elected directors are installed.

The Board shall elect a President, a Vice-President, a Secretary, and a Treasurer as Executive Officers to manage the affairs of the corporation. These officers assume their responsibilities on their date of election at the conclusion of the meeting in which they are elected. The Board of Directors may, from time to time, appoint such other officers as are necessary or proper to carry out the business of the corporation.

In the event the August Board meeting cannot be held due to extenuating circumstances or for whatever reason, the newly elected Board Members shall automatically be installed as new members at the beginning of the next meeting held.

The Board of Directors shall be elected for three-year terms and shall constitute in office until their successors are elected and qualified. The Board of Directors are divided into three (3) classes, each class consisting of one-third (1/3) of the whole number of the Board Members and each three (3) year term staggered such that only a minority of seats are up for renewal each year.

At each annual election, the successors to the Board Member of the class whose terms expire in that year shall be elected to hold office for a term of three (3) years, such that the term of office of one class of Board Members expires in each year.

Any vacancies that occur by a Board Member not serving a three-year term may be filled by a majority vote of the remaining the Board of Directors at the next regular meeting following notice of said vacancy but no later than the end of the Fiscal Year.

Unless specifically mandated in the Bylaws or by written directive from the Board of Directors, no Board Member may act in a unilateral manner regarding the business or personnel matters of the corporation. The affairs of the Corporation shall be managed, and its corporate power exercised by its Board of Directors.

The Board of Directors reserves for itself the power to:

1. Monitor student admissions procedures.
2. Suspend a student for more than ten (10) days.
3. Make fiscal decisions required for operation.
4. Delegate specific administrative responsibilities and decisions to individuals.
5. Approve the school calendar.
6. Through the Executive Committee, hear grievances.
7. Supervise the Executive Director.
8. Hiring and dismissal of Executive Director.
9. Conduct long term planning activities.
10. Determine student/teacher ratio.
11. Approve new positions.
12. Approve acquisitions and purchases above limit set by Board of Directors.
13. Manage Emergency Fund.
14. Manage Capital Replacement Fund.

### **Section 3 – Quorum**

A quorum shall be comprised of not less than one-half (1/2) plus one (1) of the members of the Board of Directors.

### **Section 4 – Regular Meetings**

The Board of Directors shall hold regular meetings; said meetings shall be scheduled at least 10 times per year at a place and time to be provided by the Board of Directors. A director is considered present if by use of any means of communication that all directors participating can hear each other during the meeting. Notice of all meetings shall be given in compliance with the notice provisions indicated in North Carolina General Statutes §143-318.9 through NCGS 143-318.14. In order to facilitate the orderly conduct of business and communication with parents, staff and Directors, all submissions and related attachments to the meeting agenda must be submitted five (5) days prior to the posted meeting. Said agenda will be published and posted four (4) days prior to the meeting date.

### **Section 5 – Special Meetings: Call and Notice**

The time, dates and places of special meetings of the Board of Directors may be set at the call of the President upon written call of the majority of the Board Members or upon resolution of the Board.

### **Section 6- Conflicts of Interest**

Matters that come before the Board of Directors which places a Director in conflict of interest between the interests of the Corporation and the interest of the Director, his/her family or business, the Director with the conflict shall be prohibited from participating in the discussion and recuse his/herself from voting on the particular matter. The Board of Directors shall comply with the voting and disclosure provisions of Director Conflict of Interest Section of the Non-Profit Corporation Law NCGS 55A-8-3

### **Section 7- Compliance with NC Open Meetings Law**

This Corporation shall comply in all respects with the North Carolina Public Schools Law, code section 114C-4 and any other related provision of North Carolina law in connection with all regular or special meetings of the Board of Directors. Except as otherwise permitted by such Open Meeting Laws, and/or North Carolina General Statutes Sections 143-318.9-143-318.19: No quorum of the Board of Directors can hold a meeting in private for the purpose of deciding on or deliberating toward a decision on any matter. No closed executive session shall be held until:

- The Board shall have first convened in an open session for which notice shall have been given in accordance with law.
- A majority of the Board at such meeting shall have voted to go into closed executive session.
- The chairperson or person presiding over the meeting has cited the purpose of the closed executive session and has stated whether or not the Board of Directors shall reconvene after the closed executive session.
- Closed executive sessions may be held only for purposes expressly permitted by law.

#### **Section 6- Removal of Board Members**

For cause determined by the Board, individual Board Members may be removed by a two-thirds vote of the Board Members in attendance at any regularly scheduled meeting in which the removal has appeared on the agenda prior to the meeting. Board Members so dismissed may be reappointed by the Board in their discretion by a majority vote to fill a vacancy.

#### **Section 7 – Indemnification**

Any person who at any time serves or has served as a Board Member of the corporation, or who, while serving as a Board Member of the corporation, serves or has served, at the request of the corporation, as a Board Member, officer, partner, trustee, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, or as a trustee or administrator under an employee benefit plan, shall have a right to be indemnified by the corporation to the fullest extent permitted by law against (a) reasonable expenses, including attorneys' fees, incurred by him/her in connection with any threatened, pending or completed civil, criminal, administrative, investigative or arbitral action, suit or proceeding (and any appeal therein), whether brought by or on behalf of the corporation, seeking to hold him liable by reason of the fact that he is or was acting in such capacity, and (b) reasonable payments made by him in satisfaction of any judgment, money decree, fine (including an excise tax assessed with respect to an employee benefit plan), penalty or settlement for which he may become liable in any such action, suit or proceeding. The Board of Directors of the corporation shall take all such action as may be necessary and appropriate to authorize the corporation to pay the indemnification required by this bylaw, including, without limitation, making a determination that indemnification is permissible in the circumstances and a good faith evaluation of the manner in which the claimant for indemnity acted and of the reasonable amount of the indemnity due him. The Board of Directors may appoint a committee or special counsel to make such determination and evaluation. Any person who at any time after the adoption of this bylaw serves or has served in the aforesaid capacity for or on behalf of the corporation shall be deemed to be

doing or to have done so in reliance upon, and as consideration for, the right of indemnification provided herein. Such right shall inure to the benefit of the legal representatives of any such person and shall not be exclusive of any other rights to which such person may be entitled apart from the provisions of this bylaw.

## ARTICLE V

### Officers

#### **Section 1 – Executive Officers**

The Executive Officers shall be elected by the Board of Directors at the August meeting and shall comprise the offices of President, Vice-President, Secretary and Treasurer. The Executive Officers are the members of the Executive Committee. Any officer duly elected shall begin serving in the elected position at the conclusion of the meeting in which he/she is elected and shall hold office until a successor is elected by the Board of Directors and has accepted office. All board members will serve for three years and may serve for two consecutive terms.

#### **Section 2 – Powers and Duties of the President**

The President shall be the chief executive officer of the corporation, responsible, along with his/her fellow Board Members, for the oversight of its business and affairs. He/she shall preside at all meetings of the Board. The President shall keep the Board of Directors fully informed and freely consult with them in regard to the business of the corporation and make do reports to them. In addition to the powers and duties elsewhere provided in these bylaws, the President shall sign, when duly authorized to do so, all contracts, orders, deeds, liens, guarantees, licenses and other instruments of a special nature. Subject to the Board of Directors, the President shall have such other powers and duties as are incident to said office and not inconsistent with this bylaw or as may at any time be assigned by the Board of Directors.

#### **Section 3 – Powers and Duties of Vice-President**

The Vice-President shall familiarize themselves with the affairs of the corporation and, in the event of the disability or absence of the President from any place in which the business in hand is to be done, the Vice-President in order designated by the Board shall have all the powers and perform all the duties of the President. The Vice-President shall have such other powers and duties as may at any time be assigned to them by the Board of Directors.

#### **Section 4 – Powers and Duties of the Treasurer**

The Treasurer, subject to the control of the Board of Directors and together with the President, shall have the general supervision of the finances of the corporation. Duties of the Treasurer include the care of, and responsibility for, all moneys, securities, evidences of value and corporate instruments of the corporation, and supervision of the officers and any other persons authorized to deposit, handle and disburse any funds, ensuring retention of information as to whether all deposited have been duly made and all expenditures duly authorized and evidenced by proper receipts and vouchers. The Treasurer shall cause full and accurate books to be kept, showing the transactions of the corporation, its accounts, assets, liabilities and financial condition, which shall at all times be open to the inspection of the Board Members, and such statements and reports as are required of him/her by law. Subject to the Board of

Directors, the Treasurer shall have such other powers and duties as are incident to the office and not inconsistent with these bylaws, or as may at any time be assigned to the Treasurer by the Board. The Board of Directors may require the Treasurer to give a bond in such amount and with such sureties as they shall determine.

### **Section 5 – Powers and Duties of the Secretary**

The Secretary shall cause to be entered in the minute books the minutes of all meetings of all committees and of the Board of Directors except for closed session topics; shall have charge of all books and papers pertaining to said office; and shall be responsible for the giving of all notices and for the making of all statements and reports required of the corporation or of the Secretary by law. The Secretary shall make a note of members in attendance at each meeting. Closed session minutes are not public record and will be stored and secured accordingly. The Secretary shall attest by signature to all instruments duly authorized and requiring the same. The Secretary shall perform such other duties as are incident to the office, and shall have such other powers and duties, in addition to that elsewhere provided in these bylaws, as may be at any time assigned by the Board of Directors.

### **Section 6 – Other Officers**

The Board of Directors may establish and elect other officers as it may deem necessary and appropriate and shall prescribe the powers and duties of any other officer of the corporation.

## ARTICLE VI

### Committees

#### **Section 1 – Executive Committee**

The role of the Executive Committee is to help the Board accomplish its work in the most efficient way. The Committee facilitates decision-making in between Board meetings or in the case of a crisis or other urgent circumstances. The President has the authority to call meetings of the Executive Committee, as necessary. The Committee is authorized to make decisions for the Board in cases where the decision cannot wait for the regularly scheduled Board meeting. A majority vote of the Committee is required to approve decisions. Any Executive Committee decisions shall be briefed to the Board at the next regularly scheduled meeting. The Executive Committee is responsible for conducting an informal mid-year review and formal annual performance review of the Principal with a written narrative. The performance review will solicit input from the school staff and other appropriate sources. The review will be presented to the Board in closed session and approved in open session. The Executive Committee will also serve as the Grievance Committee and follow the guidelines as outlined in the Policy Handbook.

#### **Section 2 – Long Range Planning Committee**

The role of the Long-Range Planning Committee is to develop, brief, and review a long-range strategic plan for the school. The Vice President is the chair, and the Principal is a member. Although not an absolute requirement, additional members should include at least one regular Board Member, one community Board Member, two employees and two parents.

#### **Section 3 – Other Committees**

The Board may also provide for such other committees as may be necessary for the effective management of the business and affairs of the corporation and give such powers and duties as may seem proper (except those specifically prohibited by law). The Board of Directors may provide a meeting and reporting schedule for such committees, establish how committee meetings shall be called, and designate at what times those meetings may be held. The committees may be formed as long-term committees that will be added as a standing committee in future bylaws revisions or as Ad Hoc committee for short-term projects.

## ARTICLE VII

### Finance

#### **Section 1 – Banking**

All funds and money of the corporation shall be deposited, handled and disbursed, and all bills, notes, checks and like obligations and endorsements, for deposit or collection, shall be signed by the Treasurer or such officers as the Board of Directors shall from time to time designate. Any officer or person performing said functions shall account therefore to the Treasurer as and when the Treasurer may require. All money, funds, bills, notes, checks and other negotiable instrument coming to the corporation shall be collected and promptly deposited in the name of the corporation in such depositories as the Board shall select.

#### **Section 2 – Fiscal Year**

The fiscal year of the corporation shall end on the 30th day of June.

#### **Section 3- Emergency Fund**

The Board of Directors shall have the responsibility to fund and maintain an Emergency Fund. This Fund is intended for use in paying insurance deductibles, providing for natural disaster recovery, and managing extraordinary funding crises to provide for the long-term stability and fiscal responsibility of the school. The target balance for the Emergency Fund shall be proposed annually by the Long-Range Planning Committee and approved at the discretion of the Board. The preliminary annual amount to be set aside, if any, for this Fund will be determined by a separate vote of the Board during the same meeting in which the approval of the annual budget is considered. Approval of the final amount will be considered during the approval of the fall amended annual budget after state funding is realized. The Emergency Fund shall only be used or withdrawn upon a two-thirds vote of the Board Members in attendance at a properly noticed meeting in which the agenda item is presented.

#### **Section 4- Capital Replacement Fund**

The Board of Directors shall have the responsibility to fund, maintain and utilize a Capital Replacement Fund. The Fund is intended to provide for long-term, recurring capital expenses as determined by the Board. Approval of the final amount of any deposit will be considered during the approval of the fall amended annual budget after state funding is realized. The Capital Replacement Fund shall only be used or withdrawn upon a majority vote of the Board Members in attendance at a properly noticed meeting in which the agenda item is presented.

### **Section 5 – Procurement of Non-budgeted Items/Services**

In the event that the Director believes that there is a non-budgeted item or service that is needed by the school that exceeds \$10000, then the Director shall present a proposal to the BOD at one of its scheduled meetings. In case of an emergency, the Director shall seek immediate counsel from the Executive Committee. This rule does not apply to items/services already contained in an approved budget, except if the procurement of a given item/service would cause that budgeted line amount to be exceeded.

## ARTICLE VIII

### Miscellaneous

#### **Section 1 – Amendments**

The Board of Directors may amend the bylaws of the corporation from time to time at any meeting properly convened in accordance with these bylaws. These bylaws may be altered, amended or repealed or new bylaws may be adopted at any meeting of the Board of Directors by a vote of two-thirds (2/3) vote of the Board Members in attendance of the Directors in office if at least ten days written notice is given of the intention to take such action at such meeting.

## **Conflict of Interest Policy**

Directors shall avoid improper conduct arising from conflicts of interest and shall abide by all legal requirements governing conflicts of interests, including N.C.G.S. Section 55A-8-31.

A person shall not be disqualified from serving as a member of the charter school's board of directors because of the existence of a conflict of interest, so long as the person's actions comply with this conflict of interest policy and applicable law.

Notwithstanding any other provisions in this policy, no voting member of the governing board shall be an employee of a for-profit company that provides substantial services to the charter school for a fee.

### **Definitions for the purposes of this policy:**

#### **1. Interested Person**

Any director, principal officer, or member of a committee of the Board of Directors who has a direct or indirect financial interest, as defined below, is an interested person.

#### **2. Financial Interest**

A person has a financial interest if the person has, directly or indirectly, through business, investment, or family:

- a. An ownership or investment interest in any entity with which the School has a transaction or arrangement,
- b. A compensation arrangement with the School or with any entity or individual with which the School has a transaction or arrangement, or
- c. A potential ownership or investment interest in, or compensation arrangement with, any entity or individual with which the School is negotiating a transaction or arrangement.

Compensation includes direct and indirect remuneration as well as gifts or favors that are not insubstantial.

A financial interest is not necessarily a conflict of interest. A person who has a financial interest may have a conflict of interest only if the Board of Directors decides that a conflict of interest exists.

### **Procedures:**

#### **1. Duty to Disclose**

In connection with any actual or possible conflict of interest, an interested person must disclose the existence of the financial interest and be given the opportunity to disclose all material facts to the Board of Directors or members of a committee with governing board delegated powers considering the proposed transaction or arrangement.

## **2. Determining Whether a Conflict of Interest Exists**

After disclosure of the financial interest and all material facts, and after any discussion with the interested person, s/he shall leave the Board of Directors or committee meeting while the determination of a conflict of interest is discussed and voted upon. The remaining board or committee members shall decide if a conflict of interest exists.

## **3. Procedures for Addressing the Conflict of Interest**

- a. An interested person may make a presentation at the Board of Directors or committee meeting, but after the presentation, s/he shall leave the meeting during the discussion of, and the vote on, the transaction or arrangement involving the possible conflict of interest.
- b. The chairperson of the Board of Directors or committee shall, if appropriate, appoint a disinterested person or committee to investigate alternatives to the proposed transaction or arrangement.
- c. After exercising due diligence, the Board of Directors or committee shall determine whether the School can obtain with reasonable efforts a more advantageous transaction or arrangement from a person or entity that would not give rise to a conflict of interest.
- d. If a more advantageous transaction or arrangement is not reasonably possible under circumstances not producing a conflict of interest, the Board of Directors or committee shall determine by a majority vote of the disinterested directors whether the transaction or arrangement is in the School's best interest, for its own benefit, and whether it is fair and reasonable. In conformity with the above determination, it shall make its decision as to whether to enter into the transaction or arrangement.

## **4. Violations of the Conflicts of Interest Policy**

- a. If the Board of Directors or committee has reasonable cause to believe a member has failed to disclose actual or possible conflicts of interest, it shall inform the member of the basis for such belief and afford the member an opportunity to explain the alleged failure to disclose.
- b. If, after hearing the member's response and after making further investigation as warranted by the circumstances, the Board of Directors or committee determines the member has failed to disclose an actual or possible conflict of interest, it shall take appropriate disciplinary and corrective action.

## **Records of Proceedings:**

The minutes of the Board of Directors and all committees with board delegated powers shall contain:

- a. The names of the persons who disclosed or otherwise were found to have a financial interest in connection with an actual or possible conflict of interest, the nature of the financial interest, any action taken to determine whether a conflict of interest

was present, and the governing board's or committee's decision as to whether a conflict of interest in fact existed.

- b. The names of the persons who were present for discussions and votes relating to the transaction or arrangement, the content of the discussion, including any alternatives to the proposed transaction or arrangement, and a record of any votes taken in connection with the proceedings.

### **Compensation:**

- a. A voting member of the Board of Directors who receives compensation, directly or indirectly, from the School for services is precluded from voting on matters pertaining to that member's compensation.
- b. A voting member of any committee whose jurisdiction includes compensation matters and who receives compensation, directly or indirectly, from the School for services is precluded from voting on matters pertaining to that member's compensation.
- c. No voting member of the Board of Directors or any committee whose jurisdiction includes compensation matters and who receives compensation, directly or indirectly, from the School, either individually or collectively, is prohibited from providing information to any committee regarding compensation.

### **Annual Statements:**

Each director, principal officer and member of a committee with Board of Directors delegated powers shall annually sign a statement, which affirms such person:

- a. Has received a copy of the conflicts of interest policy,
- b. Has read and understands the policy,
- c. Has agreed to comply with the policy, and
- d. Understands the School is charitable and in order to maintain its federal tax exemption, it must engage primarily in activities, which accomplish one or more of its tax-exempt purposes.

### **Periodic Reviews:**

To ensure the School operates in a manner consistent with charitable purposes and does not engage in activities that could jeopardize its tax-exempt status, periodic reviews shall be conducted. The periodic reviews shall, at a minimum, include the following subjects:

- a. Whether compensation arrangements and benefits are reasonable, based on competent survey information, and the result of arm's length bargaining,
- b. Whether partnerships, joint ventures, and arrangements with management organizations conform to the School's written policies, are properly recorded, reflect reasonable investment or payments for goods and services, further charitable

purposes and do not result in inurement, impermissible private benefit or in an excess benefit transaction.

**Use of Outside Experts:**

When conducting the periodic reviews as provided for in this policy, the School may, but need not, use outside advisors. If outside experts are used, their use shall not relieve the Board of Directors of its responsibility for ensuring periodic reviews are conducted.

Granite State Charter Academy  
Appendix K  
Articles of Incorporation

State of North Carolina  
Department of the Secretary of State

ARTICLES OF INCORPORATION  
NONPROFIT CORPORATION

Pursuant to §55A-2-02 of the General Statutes of North Carolina, the undersigned corporation does hereby submit these Articles of Incorporation for the purpose of forming a nonprofit corporation.

1. The name of the nonprofit corporation is: Granite State Charter Academy Inc.

2.  (Check only if applicable.) The corporation is a charitable or religious corporation as defined in NCGS §55A-1-40(4).

3. The name of the initial registered agent is: Justin Matthews

4. The street address and county of the initial registered agent's office of the corporation is:

Number and Street: 7945 Harbor Master CT  
City: Denver State: NC Zip Code: 28037 County: Catawba

The mailing address *if different from the street address* of the initial registered agent's office is:

Number and Street or PO Box: \_\_\_\_\_  
City: \_\_\_\_\_ State: NC Zip Code: \_\_\_\_\_ County: \_\_\_\_\_

5. The name and address of each incorporator is as follows:

Name	Address
<u>Legalzoom.com ,Inc.</u>	<u>101 N Brand Blvd., 11th Floor, Glendale, CA 91203</u>
_____	_____
_____	_____

6. (Check either "a" or "b" below.)

a.  The corporation will have members.

b.  The corporation will not have members.

7. Attached are provisions regarding the distribution of the corporation's assets upon its dissolution.

8. Any other provisions which the corporation elects to include are attached.

9. The street address and county of the principal office of the corporation is:

Principal Office Telephone Number: (954) 815-9568

Number and Street: 1322 High Ridge Drive

City: Mebane State: NC Zip Code: 27302 County: Orange

The mailing address *if different from the street address* of the principal office is:

Number and Street or PO Box: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_ County: \_\_\_\_\_

10. **(Optional):** Listing of Officers (See instructions for why this is important)

Name	Address	Title

11. **(Optional):** Please provide a business e-mail address: \_\_\_\_\_.

The Secretary of State's Office will e-mail the business automatically at the address provided at no charge when a document is filed. The e-mail provided will not be viewable on the website. For more information on why this service is being offered, please see the instructions for this document.

12. These articles will be effective upon filing, unless a future time and/or date is specified: \_\_\_\_\_

This is the 30th day of June, 2021.

**Legalzoom.com ,Inc.**

Incorporator Business Entity Name



*Signature of Incorporator*

Cheyenne Moseley, Legalzoom.com, Inc, Incorporator Assistant Secretary

*Type or print Incorporator's name and title, if any*

NOTES:

1. Filing fee is \$60. This document must be filed with the Secretary of State.

**Attachment to**  
**Articles of Incorporation of**  
**Granite State Charter Academy Inc.**

Said organization is organized exclusively for charitable, religious, educational, and scientific purposes, including, for such purposes, the making of distributions to organizations that qualify as exempt organizations under the section 501 (c) (3) of the Internal Revenue Code, or corresponding section of any future federal tax code. The business activity for said organization is as follows:

To develop and operate a public charter school in Chatham County, North Carolina.

No part of the net earnings of this organization shall inure to the benefit of, or be distributable to, its members, trustees, officers, or other private persons, except that the organization shall be authorized and empowered to pay reasonable compensation for services rendered and to make payments and distributions in furtherance of the purposes set forth in the purpose clause hereof. No substantial part of the activities of this organization shall be the carrying on propaganda, or otherwise attempting to influence legislation, and this organization shall not participate in, or intervene in (including the publishing or distribution of statements), any political campaign on behalf of any candidate for public office. Notwithstanding any other provision of this document, the corporation shall not carry on any other activities not permitted to be carried on (a) by an organization exempt from federal income tax under section 501(c) (3) of the Internal Revenue Code, or corresponding section of any future federal tax code, or (b) by an organization, contributions to which are deductible under section 170(c) (2) of the Internal Revenue Code, or the corresponding section of any future federal tax code.

Upon the dissolution of this corporation, assets remaining shall be distributed for one or more exempt purposes within the meaning of Section 501(c) (3) of the Internal Revenue Code, or corresponding section of any future federal tax code, or shall be distributed to the federal government, or to a state or local government, for a public purpose. Any such assets not disposed of shall be disposed by the Superior Court of the county in which the principal office of the organization is then located, exclusively for such purposes or to such organization or organizations, as said Court shall determine, which are organized and operated exclusively for such purposes.

Granite State Charter Academy

Appendix L

Insurance Quote

# INSURANCE PEOPLE

Below are the estimated annual premiums: **Granite State Charter Academy**

**Property Premium Estimate** **\$17,500**

Building	\$18,000,000
Contents	\$1,00,000
Deductible	\$1,000
Form	Special
Equipment Breakdown	Included

**General Liability Premium Estimate** **\$4,937**

<b>Rating Basis:</b>	Students	500
	Faculty	22

**Limits:**

Per Occurrence Limit	\$1,000,000
Annual Aggregate	\$3,000,000
Sexual Abuse & Molestation	\$1,000,000 per occurrence \$3,000,000 aggregate
Employee Benefits	\$1,000,000 per occurrence \$3,000,000 aggregate
CyberSuite	\$250,000 per occurrence \$250,000 aggregate
Crisis Event	\$250,000 aggregate \$25,000 per person

**School District & Educators Legal Liability (D&O/ E&O)**

**Premium Estimate** **\$2,850**

	\$1,000,000 per occurrence
	\$2,000,000 aggregate
Additional Defense	\$100,000/\$50,000/\$100,000

Named insured includes the insured Organization (School Entity), its school board, School Committee, Board of Trustees, Board of Governors, or similar governing body, elected or appointed members of the Board of Education, Board of Trustees, School Directors, School Committee, Board of Governors or similar governing board, Employees, Student Teachers, School Volunteers, and students while serving in a supervised internship program sponsored by the “educational institution”.

# INSURANCE PEOPLE

Wrongful Act to include any actual or alleged act, error, omission, misstatement, misleading statement, neglect, or breach of duty by or on behalf of the Insured Organization, including educational malpractice or failure to educate, negligent instruction, failure to supervise, inadequate or negligent academic guidance of counseling, improper or inappropriate academic placement or discipline.

<b>Fidelity Bond Estimate</b>		<b>\$332</b>
Limit	\$250,000	
<b>Auto Premium Estimate</b>		<b>\$385</b>
Hired & Non-owned Auto Liability		
Limit of Liability	\$1,000,000	
<b>Head of Class Endorsement</b>		<b>\$131</b>
<b>Workers Compensation Premium Estimate</b>		<b>\$7,156</b>
Statutory State - NC		
Employers Liability	\$500/ \$500/ \$500	
Payroll Estimate	\$1,250,000	
<b>Umbrella Premium Estimate</b>		<b>\$2,387</b>
Limit of Liability	\$1,000,000	
<b>TOTAL ESTIMATED PREMIUM</b>		<b>\$35,678</b>
Student Accident Coverage		\$7.00/ student

These premiums are subject to change based on Underwriter review and approval of completed applications.

Disclaimer: The abbreviated outlines of coverages used throughout this proposal are not intended to express legal opinion as to the nature of coverage. They are only visuals to a basic understanding of coverages. The policy terms, conditions, and exclusions will prevail. Please read the policy forms for specific details of coverage

4/13/2022



Granite State Charter Academy

Appendix M

Revenue Assurances

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Rosemawr

Management

January 28, 2022

**TERM SHEET**

Granite State Academy Charter School

*The following are indicative terms, for discussion purposes only. This Term Sheet does not constitute a commitment to enter into any transaction or purchase of securities or any other extension of credit. Any transaction will be subject to final credit approval and completion of acceptable documentation.*

<b>Purpose and Summary:</b>	Rosemawr Management LLC (“Rosemawr” or “Purchaser”) has been approached by Truist in its role as an underwriter for GSCA, a North Carolina nonprofit charter applicant (the “Borrower”) to outline the terms and conditions for Rosemawr’s potential interest to purchase up to [\$23,600,000] of Bonds (the “Bonds”) to be issued by the Wisconsin Public Finance Authority (“PFA”) on behalf of the Borrower. Proceeds will be used to acquire roughly 11 acres of vacant land under contract in Chatham County, North Carolina, construct a +/- 50,000-65000 square feet facility to accommodate approximately 8000 students in grades K-8, and provide equipment for the same. Rosemawr, on behalf of its investment funds, hereby offers this Term Sheet (“Term Sheet”) in response to the above solicitation.
<b>Issuer:</b>	Wisconsin Public Finance Authority
<b>Type of Financing:</b>	The Bonds will be issued as a direct placement Securities under Section 3(a)(4) of the Securities Act, in book entry form and registered in the name of Cede & Co., a nominee of The Depository Trust Company, New York, New York (“DTC”) through a Limited Offering Memorandum. Bonds shall be issued in minimum denominations of \$100,000.
<b>Issuance Date:</b>	Rosemawr, the Borrower, and all involved parties will conduct their best efforts to close the transaction on or before July 1, 2023 so that the school is completed on or before August 1, 2024.
<b>Land Purchase:</b>	In the event that the bond Issuance Date will not take place before July 1, 2023, Rosemawr will facilitate the acquisition of the GSCA site, currently estimated at \$1.2mm, to secure the land for use by GSCA. Such acquisition can take the form of Rosemawr purchasing the land directly, or an interim loan.
<b>Par Amount:</b>	[\$23,600,000] (final sizing TBD)
<b>Purchase Price:</b>	[\$95.00]

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<b>Interest Rate:</b>	The Tax-Exempt Series shall bear an initial interest rate of 6.50% per annum. To the extent necessary, the Taxable Series shall bear an interest rate of 8.00%.
<b>Interest &amp; Principal Payments:</b>	Interest payments will occur semi-annually and principal payments will occur annually.
<b>Maturity:</b>	June 15, 2058
<b>Amortization:</b>	Interest only for three years [until June 30, 2026]. Principal amortization schedule beginning July 1, 2026. Amortization shall be structured to allow for level debt service starting in 2027 2028 school year.
<b>Tax Exemption:</b>	As a pre-closing condition, Granite State Charter Academy shall provide their 1023 Application.
<b>Optional Redemption of Bonds:</b>	The bonds will be eligible for optional redemption at par in December 15, 2029.
<b>Use of Proceeds:</b>	Proceeds of the Bonds will be used to fund: (i) the cost of constructing and equipping the GSCA campus, (ii) the cost of acquiring the land for GSCA, (iii) interest on the Bonds for approximately 36 months after, (iv) Furniture, Fixtures, Equipment Technology and Curriculum of approximately \$1,250,000, (v) \$175,000 in pre-opening funds as requested, and (vi) issuance costs of the Bonds.
<b>Borrower:</b>	The Borrower will be Granite State Charter Academy School. In the event it is advantageous to create an umbrella or foundation organization to lease the facility to the school, all parties shall conduct best efforts to facilitate said structure.
<b>Developer:</b>	TBD
<b>Security:</b>	The Bonds shall be a general obligation of the Borrower secured by a first mortgage lien on the school buildings financed with the proceeds of the Bonds, all legally available gross revenues including accounts receivable, income, gifts and donations (unless restricted), and intangibles of the Borrower, the DSRF, and the Obligor/Guarantee (as further described below).
<b>Obligor/Guarantee:</b>	TBD
<b>Management Fees</b>	In the event the school contracts with a CMO/EMO, management fees shall be subordinated to Senior Debt Service, and will be paid out provided that payment of such would not violate the coverage or DCOH covenant.

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<b>Debt Service Reserve Fund:</b>	Subject to the opinion of bond counsel regarding funding a "reasonably required reserve fund," the Borrower shall not be required to fund a debt service reserve fund ("DSRF" or "DSRF Requirement") at closing.
Capital Need Assessment	The Borrower shall select an Independent Consultant to complete a Capital Needs Assessment of the Property projecting the Borrower's capital needs for the Property and the total cost thereof for the five year period commencing on the immediately following July 1 (each a "Capital Needs Assessment") no later than July 1, 2026, and every fifth anniversary thereafter so long as the Bonds are outstanding.
Capital Reserve Fund	At no time following the completion of the 5th year after issuance of the bond shall the Capital Reserve Fund balance fall below \$200,000 as reported in the annual audit. In the event the Capital Reserve Fund falls below \$200,000, the Borrower shall restore the minimum balance before the end of the next fiscal year. The balance in the Capital Reserve Fund shall not count towards the DCOH requirement, and deposits into the same shall not be considered Operating Expenses.
<b>Construction Completion Guaranty:</b>	A guaranteed maximum price construction contract and completion guarantee (GMP) with a fully bonded (payment and performance) and experienced contractor ("Contractor") will be required. Contract to include acceptable liquidated damage, contingency, insurance and retainage provisions. The Construction Contract shall be collaterally assigned to the Trustee as security for the Bonds. The GMP will be sized to not exceed [\$18,000,000], with a delivery date no later than August 1, 2024.
<b>Contractor</b>	TBD
<b>Construction Monitor:</b>	The Borrower shall retain a third party construction monitor acceptable to Rosemawr. The Construction Monitor shall provide monthly construction monitoring reports, and an initial risk report of the project.
<b>Construction Reporting:</b>	The Contractor shall provide monthly reports as to the status of construction and expected completion, the project's budget, and change orders. Reports of the construction monitor shall be provided directly to the Trustee with copies to Rosemawr.
<b>Financial Covenants:</b>	<u>Coverage:</u> Commencing in the 2026 fiscal year, and every fiscal year thereafter, the Borrower shall have a Debt Service Coverage ("DSC") ratio of 1.20x Annual Debt Service ("ADS") based on audited financial statements. Failure to realize a 1.20x ADS ratio or more shall trigger the selection of a financial consultant. Failure by the Borrower to have a DSC at or above 1.00x for any fiscal year commencing July 1, 2026 (ie Fiscal Year 2026), shall be an event of default.

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	<p><u>DCOH:</u> Commencing in the 2024-2025 fiscal year, the Borrower shall have Days Cash on Hand (“DCOH”) as set forth: 2024: 10 days 2025:20 days 2026:30 days 2026: 40 days 2027 (and beyond): 45 days Failure to realize the minimum DCOH level shall trigger the selection of a financial consultant.</p> <p>Notwithstanding the foregoing, amounts deposited in the Debt Service Reserve Fund or the Repair and Replacement Fund for the Bonds shall not be considered funds expended by the Borrower for purposes of calculating DSC or DCOH.</p> <p><u>Enrollment:</u> GSCA shall realize minimum enrollment levels equal to 85% of their pro forma figures provided to Rosemawr, respectively. Failure to realize the minimum enrollment level shall trigger the selection of an academic consultant.</p> <p><u>Academic:</u> GSCA shall realize a minimum State Academic Performance grade of “C” or better in the academic year 2024-25, subject to any changes in legislation and/or adjudication of the school grade system. Failure to realize the minimum grade level shall trigger the selection of an academic consultant.</p>
<b>Additional Indebtedness:</b>	<p>The Borrower may not incur any additional parity indebtedness without the majority bondholders’ prior written consent. The school may need to pull an additional FFET financing in future years to pay for furniture for growth. Also, may elect to finance school buses.</p> <p>[Additional covenants to be negotiated with Developer.]</p>
<b>Developer Fee:</b>	<p>Any Developer Fee will not exceed [3%] of the hard and soft costs for the GSCA project. The Developer Fee will be paid out upon receipt of the Final Certificate of Occupancy. The Developer Fee shall be deposited into the Project Fund, and available as an additional contingency to cover cost over-runs for the Project. 1% payable at closing, 2% at CO. This does not include reimbursement for incurred expenses, which would be reimbursed at closing.</p>
<b>Appraisal</b>	<p>An appraisal of the GSCA will be produced by an appraisal firm acceptable to Rosemawr.</p>
<b>Trustee</b>	<p>TBD</p>
<b>Continuing Disclosure:</b>	<p>GSCA will provide the following disclosure documents:</p>

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	<ul style="list-style-type: none"> <li>• Monthly construction reports including actual vs. budget disbursements and progress;</li> <li>• Semi-annual reports with applicant and data enrollment (including waitlist) by grade, (start and end of academic year);</li> <li>• Annual reports of academic results</li> <li>• Unaudited quarterly financial statements within 45 days of quarter end;</li> <li>• Annual Audits within 180 days of fiscal year end;</li> <li>• Annual operating and capital budget at least 30 days prior to the start of the fiscal year;</li> <li>• Material correspondence between the authorizer and GSCA; and</li> <li>• Borrower certifications of covenant calculations and compliance.</li> </ul> <p>The Borrower shall also conduct quarterly continuing disclosure calls for the first two years after the issuance of the bonds, and semi-annual continuing disclosure calls thereafter.</p>
<b>Disclosure Agent</b>	School Improvement Partnership
<b>Other Covenants:</b>	<p>The Borrower shall not engage in any business activity not related to the normal course of business of owning and operating the charter school and related facility. The Borrower shall maintain its existence and shall not merge or sell any of its assets without written consent of majority bondholders. Other covenants will include:</p> <ul style="list-style-type: none"> <li>• Limitation on liens</li> <li>• Limitation on transfers of assets</li> <li>• Maintenance of casualty and liability insurance</li> <li>• Compliance with law and all material contracts</li> <li>• Other covenants normal and customary for transaction of this nature.</li> </ul>
<b>Conditions Precedent:</b>	<p>Prior to or simultaneously with the issuance of the Bonds the Borrower shall obtain or provide to the satisfaction of Rosemawr the following:</p> <ul style="list-style-type: none"> <li>• Acceptance of documentation including the Mortgage Security Agreement; Notwithstanding the terms of the Preliminary Direct Placement Memorandum, all documents will be reviewed and may be amended pursuant to Purchaser Counsel’s review of the same.</li> </ul>
<b>Due Diligence:</b>	The Borrower will cooperate with Rosemawr in its due diligence review and shall provide all the necessary documents required by Rosemawr.
<b>Rating Solicitation Covenant:</b>	Rosemawr Management shall have the right to seek a credit rating for the Bonds and the Borrower agrees to cooperate in good faith in the process of obtaining such rating provided S&P, Moody’s or Fitch give an Indicative Rating of ‘BB’ or ‘Ba2’ or better. In exchange for said cooperation, the Purchaser agrees to pay for the initial rating. Following the provision of said

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	<p>rating; the Borrower agrees to maintain the rating, including cooperation and response to the rating agency.</p> <p>The Borrower will bear the cost of said rating, and will be responsible for maintaining the rating after it has been received, so long as the Bonds are outstanding.</p>
<b>Purchaser Counsel:</b>	TBD
<b>Expenses:</b>	<p>Rosemawr will be reimbursed by the Borrower for all reasonable legal and consulting fees and other diligence expenses incurred in connection with the transaction whether or not the transaction is consummated. Within two days after the acceptance of this Term Sheet, the Borrower shall remit to Rosemawr the full amount of this initial due diligence fee equal to \$50,000. Such due diligence fee shall be reimbursable to the Borrower if Rosemawr determines that it will not pursue the transaction without cause.</p>
<b>Confidentiality:</b>	<p>The provisions of this Term Sheet shall be kept confidential and shall not, without Rosemawr's prior consent, be disclosed by the Borrower to any person or entity other than (i) the Borrower's directors, senior administrators, and professional advisors who have a need to know. All such persons or entities provided this Term Sheet shall be informed of this confidentiality requirement. Notwithstanding the foregoing, the terms of this paragraph shall not be deemed to prevent the Borrower from complying with its obligations under State Law.</p>
<b>Exclusivity:</b>	<p>The Borrower shall negotiate and work in good faith exclusively with Rosemawr to consummate the transaction described in this Term Sheet. The Borrower shall cease discussions with any other potential lenders regarding the transaction contemplated by this Term Sheet until May 27, 2022.</p>

[Signatures to Follow]

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ROSEMAWR MANAGEMENT LLC

Signed:

\_\_\_\_\_  
Greg Shlionsky, Managing Member

Agreed to and accepted by:

Granite State Charter Academy Charter School

\_\_\_\_\_

Granite State Charter Academy  
Appendix N  
Proposed Year 1-5 Budget

**Enrollment Projections Year 1 through Year 5**

In the following tables, please list for each year and grade level, the numbers of students that the school reasonably expects to enroll. In addition, please indicate any plans to increase the grade levels offered by the school over time and be sure these figures match those on the initial cover page.

The numbers in the following tables are projections, or estimates, and do not bind the State to fund the school at any particular level.

LEA #1: 190-Chatham	What percentage of students from the LEA selected above will qualify for EC funding?	12%
LEA #2: 320-Durham Public	What percentage of students from the LEA selected above will qualify for EC funding?	12%
LEA #3: 680-Orange	What percentage of students from the LEA selected above will qualify for EC funding?	12%

Grade	Year 1			Year 2			Year 3			Year 4			Year 5		
	LEA #1 190	LEA #2 320	LEA #3 680	LEA #1 190	LEA #2 320	LEA #3 680	LEA #1 190	LEA #2 320	LEA #3 680	LEA #1 190	LEA #2 320	LEA #3 680	LEA #1 190	LEA #2 320	LEA #3 680
Kindergarten	22	11	11	33	17	17	33	16.5	16.5	44	22	22	44	22	22
Grade 1	22	11	11	22	11	11	33	16.5	16.5	33	17	17	44	22	22
Grade 2	22	11	11	22	11	11	33	16.5	16.5	33	17	17	33	17	17
Grade 3	22	11	11	22	11	11	22	11	11	33	17	17	33	17	17
Grade 4	22	11	11	22	11	11	22	11	11	22	11	11	33	17	17
Grade 5	11	6	6	22	11	11	22	11	11	22	11	11	22	11	11
Grade 6	33	16	16	33	17	17	44	22	22	44	22	22	44	22	22
Grade 7				33	17	17	30	15	15	44	22	22	44	22	22
Grade 8							30	15	15	30	15	15	44	22	22
Grade 9															
Grade 10															
Grade 11															
Grade 12															
<b>LEA Totals:</b>	<b>154</b>	<b>77</b>	<b>77</b>	<b>209</b>	<b>105</b>	<b>105</b>	<b>269</b>	<b>135</b>	<b>135</b>	<b>305</b>	<b>153</b>	<b>153</b>	<b>341</b>	<b>171</b>	<b>171</b>

For the first two years the State will fund the school up to the maximum projected enrollment for each of those years as set forth and approved in the projected enrollment tables. However, in subsequent years, the school may increase its enrollment only as permitted by NCGS 115C-218.7(b).

## Budget: Revenue Projections from each LEA Year 1

**State Funds:** Charter schools receive an equivalent amount per student as the local education agency (LEA) receives per student receives from the State. Funding is based on the 1st month average daily membership.

**In year 1:** Base state allotments are determined by the LEA in which the student resides.

**In year 2 and Beyond:** Base State allotments are determined by the LEA in which the school is located.

**Local Funds:** Charter schools receive a per pupil share of the local current expense of the LEA in which the student resides.

**State EC Funds:** Charter schools receive a per pupil share of state funds per student with disabilities (school-aged 5 through 21). Funds are limited to 12.75% of the local education agency's average daily membership (ADM).

**Federal EC Funds:** Charter schools must qualify and apply for the individual federal grants based on their population of students.

### REFER TO RESOURCE GUIDE FOR ADDITIONAL INFORMATION AND SOURCE DOCUMENTS

LEA #1:		190-Chatham		
Revenue	Approximate Per Pupil Funding	Projected LEA ADM	Approximate funding for Year 1	
State Funds	\$5,948.76	154	\$916,109.04	
Local Funds	\$522.28	154	\$80,431.12	
State EC Funds	\$4,800.62	18	\$88,715.46	
Federal EC Funds	\$1,514.35	18	\$27,985.19	
<b>Total:</b>			<b>\$1,113,240.81</b>	

LEA #2:		320-Durham Public		
Revenue	Approximate Per Pupil Funding	Projected LEA ADM	Approximate funding for Year 1	
State Funds	\$6,076.39	77	\$467,882.03	
Local Funds	\$4,129.02	77	\$317,934.54	
State EC Funds	\$4,800.62	9	\$44,357.73	
Federal EC Funds	\$1,514.35	9	\$13,992.59	
<b>Total:</b>			<b>\$844,166.89</b>	

LEA #3:		680-Orange		
Revenue	Approximate Per Pupil Funding	Projected LEA ADM	Approximate funding for Year 1	
State Funds	\$6,160.35	77	\$474,346.95	
Local Funds	\$4,367.00	77	\$336,259.00	
State EC Funds	\$4,800.62	9	\$44,357.73	
Federal EC Funds	\$1,514.35	9	\$13,992.59	
<b>Total:</b>			<b>\$868,956.27</b>	

## Total Budget: Revenue Projections Year 1 through Year 5

All per pupil amounts are from the most current information and would be approximations for Year 1.

Federal funding is based upon the number of students enrolled who qualify. The applicant should use caution when relying on federal funding in year one to meet budgetary goals.

These revenue projection figures do NOT guarantee the charter school would receive this amount of funding in Year 1.

For local funding amounts, applicants will need to contact their local offices or LEA.

Income: Revenue Projections	Year 1	Year 2	Year 3	Year 4	Year 5
State ADM Funds	\$ 1,858,338	\$ 2,522,030	\$ 3,246,058	\$ 3,680,475	\$ 4,114,891
Local Per Pupil Funds	\$ 734,625	\$ 996,991	\$ 1,283,208	\$ 1,454,938	\$ 1,626,669
State EC Funds	\$ 177,431	\$ 240,799	\$ 309,928	\$ 351,405	\$ 392,883
Federal EC Funds	-	\$ 55,970	\$ 97,766	\$ 110,850	\$ 123,934
<b>Other Funds*</b>					
<b>Working Capital*</b>					
<b>TOTAL REVENUE:</b>	<b>\$ 2,770,394</b>	<b>\$ 3,815,790</b>	<b>\$ 4,936,960</b>	<b>\$ 5,597,669</b>	<b>\$ 6,258,377</b>

*\*All budgets should balance indicating strong budgetary skills. Any negative fund balances will, more than likely, generate additional questions by those evaluating the application. If the applicant is depending on other funding sources or working capital to balance the operating budget, please provide documentation such as signed statements from donors, foundations, bank documents, etc., on the commitment of these funds. If these figures are loans, the repayment needs to be explained in the narrative and found within the budget projections.*

Assurances are needed to confirm the commitment of these additional sources of revenue. Please include these as Appendix M.



\*\*\* Edit text as needed. \*\*\*

		\$ -		\$ -		\$ -		\$ -		\$ -
<b>Total Instructional Personnel Benefits:</b>		\$ 169,282		\$ 274,700		\$ 342,546		\$ 415,100		\$ 460,275
<b>Total Personnel Benefits:</b>		\$ 208,525		\$ 342,546		\$ 421,032		\$ 493,585		\$ 538,760
<b>Total Admin &amp; Support Personnel (Salary &amp; Benefits):</b>	5	\$ 249,243	7	\$ 335,846	8	\$ 416,486	8	\$ 416,485.67	10	\$ 522,486
<b>Total Instructional Personnel (Salary &amp; Benefits):</b>	18	\$ 1,026,982	28	\$ 1,565,600	35	\$ 1,966,996	42	\$ 2,329,800	47	\$ 2,613,225
<b>TOTAL PERSONNEL:</b>	23	\$ 1,276,225	35	\$ 1,901,446	43	\$ 2,383,482	50	\$ 2,746,285	57	\$ 3,135,710

\*The personnel list below may be amended to meet the staffing of individual charter schools: This list should align with the projected staff located in the Operations Plan.

## Operations Budget: Expenditure Projections

The following list of expenditure items is presented as an example. Applicants should modify to meet their needs.

OPERATIONS BUDGET: Administrative and Support					
	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Office</b>					
Office Supplies	\$ 18,000.00	\$ 20,000.00	\$ 22,000.00	\$ 22,000.00	\$ 24,000.00
Paper	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00	\$ 3,000.00
Computers & Software	\$ 12,000.00	\$ 12,000.00	\$ 12,000.00	\$ 12,000.00	\$ 6,000.00
Communications & Telephone	\$ 10,000.00	\$ 12,000.00	\$ 13,000.00	\$ 13,000.00	\$ 13,000.00
Copier leases	\$ 20,000.00	\$ 25,000.00	\$ 30,000.00	\$ 35,000.00	\$ 35,000.00
Office Equipment	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00
Postage	\$ 2,000.00	\$ 2,000.00	\$ 2,500.00	\$ 2,500.00	\$ 2,500.00
Memberships, Dues, Fees	\$ 4,000.00	\$ 4,500.00	\$ 5,000.00	\$ 5,500.00	\$ 5,500.00
<b>Management Company</b>					
Contract Fees	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Professional Contract</b>					
Legal Counsel	\$ 10,000.00	\$ 12,000.00	\$ 14,000.00	\$ 16,000.00	\$ 18,000.00
Student Accounting	\$ 46,000.00	\$ 48,000.00	\$ 55,000.00	\$ 60,000.00	\$ 70,000.00
Financial	\$ 34,902.00	\$ 41,895.00	\$ 50,274.00	\$ 50,274.00	\$ 55,000.00
Technology Support	\$ 46,000.00	\$ 48,000.00	\$ 55,000.00	\$ 60,000.00	\$ 65,000.00
Human Resources	\$ 20,000.00	\$ 21,500.00	\$ 22,000.00	\$ 22,000.00	\$ 22,000.00
Audit Services	\$ 12,000.00	\$ 13,000.00	\$ 14,000.00	\$ 14,000.00	\$ 16,000.00
Athletic Services	\$ 5,000.00	\$ 5,000.00	\$ 10,000.00	\$ 12,000.00	\$ 14,000.00
<b>Facilities</b>					
Facility Lease/Mortgage	\$ 475,000.00	\$ 700,000.00	\$ 1,100,000.00	\$ 1,250,000.00	\$ 1,250,000.00
Maintenance	\$ 17,000.00	\$ 25,000.00	\$ 17,000.00	\$ 17,000.00	\$ 17,000.00
Custodial Supplies	\$ 10,000.00	\$ 11,500.00	\$ 11,500.00	\$ 11,500.00	\$ 11,500.00
Custodial Contract	\$ 38,000.00	\$ 46,000.00	\$ 46,000.00	\$ 46,000.00	\$ 48,000.00
Insurance (pg19)	\$ 35,678.00	\$ 38,000.00	\$ 40,000.00	\$ 42,000.00	\$ 44,000.00
Athletic/Offsite Rental	\$ 5,000.00	\$ 6,000.00	\$ 7,000.00	\$ 8,000.00	\$ 9,000.00
<b>Utilities</b>					
Electric	\$ 45,000.00	\$ 52,000.00	\$ 54,000.00	\$ 54,000.00	\$ 54,000.00
Gas					
Water/Sewer	\$ 15,000.00	\$ 15,000.00	\$ 15,000.00	\$ 15,000.00	\$ 15,000.00
Trash	\$ 6,500.00	\$ 7,500.00	\$ 7,500.00	\$ 7,500.00	\$ 7,500.00
<b>Transportation</b>					
Contracted Transportation Services	\$ 125,000.00	\$ 175,000.00	\$ 225,000.00	\$ 250,000.00	\$ 300,000.00
Travel	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00
<b>Other</b>					
Marketing	\$ 6,000.00	\$ 6,000.00	\$ 6,000.00	\$ 6,000.00	\$ 6,000.00
Child nutrition					
FFETC Debt Service	\$ 125,000.00	\$ 150,000.00	\$ 150,000.00	\$ 225,000.00	\$ 225,000.00
Field Trips	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00
*** Insert rows and edit text as needed. ***					
<b>Total Administrative &amp; Support Operations:</b>	<b>\$ 1,166,080.00</b>	<b>\$ 1,519,895.00</b>	<b>\$ 2,006,774.00</b>	<b>\$ 2,279,274.00</b>	<b>\$ 2,356,000.00</b>

<b>OPERATIONS BUDGET: Instructional</b>		<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>				
<b>Classroom Technology</b>										
Software	\$	25,000.00	\$	30,000.00	\$	45,000.00	\$	50,000.00	\$	60,000.00
Other										
*** Insert rows and edit text as needed. ***										
<b>Instructional Contract</b>										
Staff Development	\$	75,000.00	\$	75,000.00	\$	75,000.00	\$	75,000.00	\$	75,000.00
EC Services	\$	50,000.00	\$	55,000.00	\$	65,000.00	\$	70,000.00	\$	80,000.00
<b>Books and Supplies</b>										
Instructional Materials	\$	45,000.00	\$	50,000.00	\$	55,000.00	\$	55,000.00	\$	60,000.00
Curriculum/Texts	\$	95,000.00	\$	95,000.00	\$	125,000.00	\$	125,000.00	\$	125,000.00
Copy Paper	\$	8,000.00	\$	12,000.00	\$	16,000.00	\$	20,000.00	\$	24,000.00
EC Supplies	\$	8,000.00	\$	10,000.00	\$	12,000.00	\$	12,000.00	\$	12,000.00
Health and Safety Supplies	\$	4,000.00	\$	4,000.00	\$	4,000.00	\$	4,000.00	\$	4,000.00
PE Supplies	\$	5,000.00	\$	5,000.00	\$	5,000.00	\$	5,000.00	\$	5,000.00
<b>Total Instructional Operations:</b>	<b>\$</b>	<b>315,000.00</b>	<b>\$</b>	<b>336,000.00</b>	<b>\$</b>	<b>402,000.00</b>	<b>\$</b>	<b>416,000.00</b>	<b>\$</b>	<b>445,000.00</b>
<b>TOTAL OPERATIONS:</b>										
	<b>\$</b>	<b>1,481,080.00</b>	<b>\$</b>	<b>1,855,895.00</b>	<b>\$</b>	<b>2,408,774.00</b>	<b>\$</b>	<b>2,695,274.00</b>	<b>\$</b>	<b>2,801,000.00</b>

\*Applicants may amend this table and the position titles to fit their Education and Operations Plans.

## Overall Budget

SUMMARY	Logic	Year 1	Year 2	Year 3	Year 4	Year 5
Total Personnel	J	\$ 1,276,224.84	\$ 1,901,446.14	\$ 2,383,481.81	\$ 2,746,285.45	\$ 3,135,710.32
Total Operations	M	\$ 1,481,080.00	\$ 1,855,895.00	\$ 2,408,774.00	\$ 2,695,274.00	\$ 2,801,000.00
Total Expenditures	N = J + M	\$ 2,757,304.84	\$ 3,757,341.14	\$ 4,792,255.81	\$ 5,441,559.45	\$ 5,936,710.32
Total Revenue	Z	\$ 2,770,393.60	\$ 3,815,790.26	\$ 4,936,960.44	\$ 5,597,668.90	\$ 6,258,377.36
Surplus / (Deficit)	= Z - N	\$ 13,088.76	\$ 58,449.11	\$ 144,704.63	\$ 156,109.45	\$ 321,667.04

Granite State Charter Academy  
Appendix O  
Start Up Budget

Start Up Cash Flow 01/24-07/24	January	February	March	April	May	June	July
REVENUES							
Line of Credit remaining	\$175,000	\$148,500	\$122,000	\$100,500	\$78,000	\$56,500	\$35,000
EXPENSES							
Temporary Facility Rent Costs	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Marketing	\$5,000	\$5,000	\$0	\$1,000	\$0	\$0	\$0
Technology and Website	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
Materials/Supplies	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Recruiting	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Administrative Personnel Costs	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000	\$13,000
Total Expenses	\$26,500	\$26,500	\$21,500	\$22,500	\$21,500	\$21,500	\$21,500
Fund Balance	\$148,500	\$122,000	\$100,500	\$78,000	\$56,500	\$35,000	\$13,500



DATE 4/25/22

RE: Granite State Academy Charter School

Please find below outlined business terms for your proposed SCHOOL to be located at 50101 Governors Drive in Governors Village. This Letter of Intent ("LOI") is submitted for review and consideration and is subject to final approval by Landlord.

**SPACE:** The Bold Building  
50101 Governors Drive, Suite 280 Chapel Hill, NC 27517

**SIZE:** +/- 15,730 RSF

**TENANT:** SCHOOL

**TERM:** One (1) year up to maximum of Five (5) year term

**SECURITY DEPOSIT:** Upon execution of the Lease, Tenant shall provide a Security Deposit in the amount of (ONE MONTH'S RENT) Twenty One Thousand Thirteen Dollars (\$21,013)

**MINIMUM RENT:** \$20.00/SF per year with 3% annual increases.

**LEASE TYPE:** Full service lease. Landlord is responsible for taxes, insurance, common area maintenance, parking, water, and electricity.

**UTILITY SUMMARY:** Tenant shall pay for janitorial services, internet, phone, and any utilities and other services exclusive to Tenant's use of the Premises

**POSSESSION**

**DATE:** Aug. 1, 2024

**RENT COMMENCEMENT**

**DATE:** At time of possession.

**LANDLORD WORK:**

Paint walls to replace existing paint color with one (1) paint color per Tenant selection; install new carpet to replace existing carpet per Tenant selection of commercial loop broadloom carpet. Landlord to ensure plumbing and HVAC are in working order.

**BROKER:**

Bold Commercial Real Estate, LLC is representing the Landlord

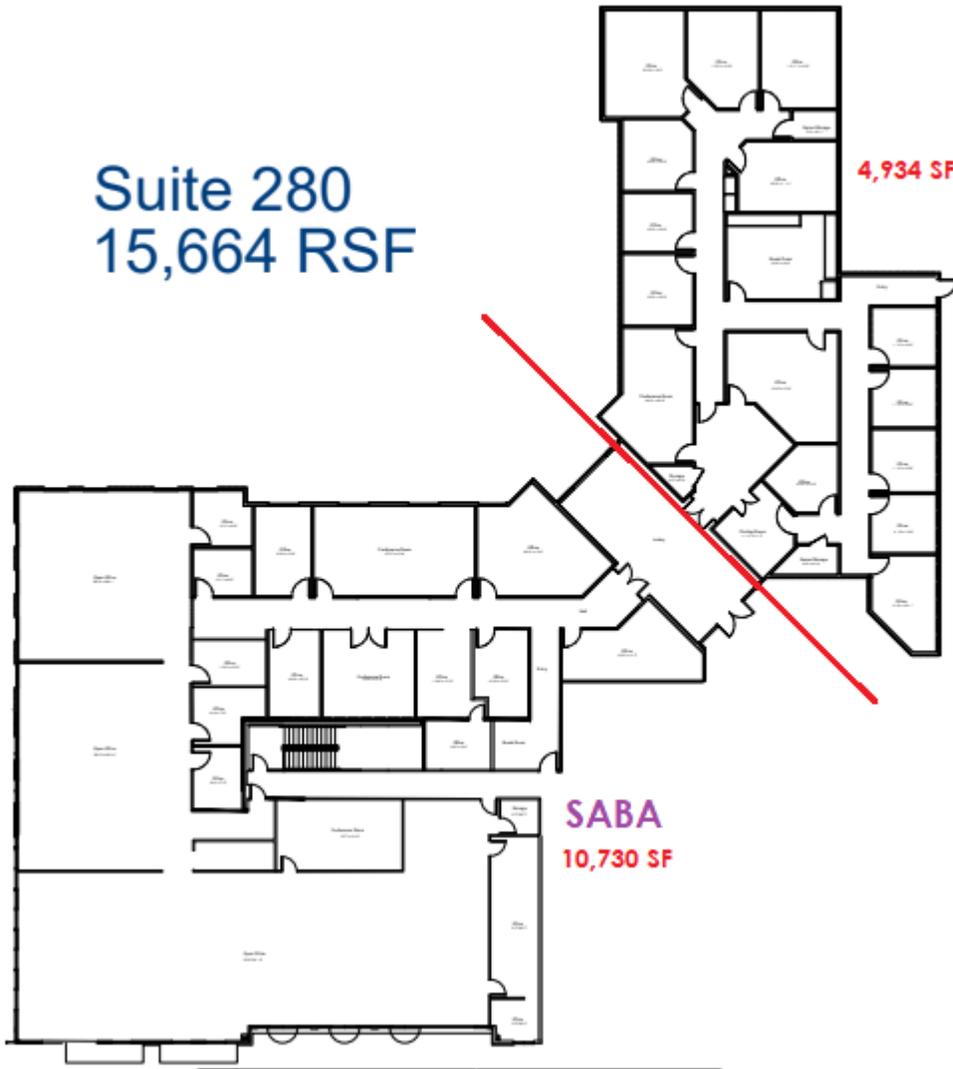
**FINANCIAL**

**STATEMENTS:**

Tenant shall provide Landlord with Guarantor's net worth statement and tax return and/or another form of financial stability as required by Landlord

*It is expressly understood that: (a) this letter is a Letter of Intent; (b) this letter is not intended to constitute a binding agreement to consummate the transaction contemplated herein or an agreement to enter into a lease; (c) no obligation of any nature whatsoever is intended to be created hereunder.*

Exhibit A



Suite 280  
15,664 RSF

4,934 SF

SABA  
10,730 SF

## GSCA School Discipline Plan

### Discipline Philosophy

*We view discipline as a means of promoting positive character by establishing trust, respect and productive relationships that help maintain a community of strong communicators, courageous problem solvers, and responsible citizens. In our discipline program, we strive for the full cooperation of all students, parents, teachers and school leadership, where everyone involved supports and embraces the actions necessary to maintain a culture that embodies the GSCA Purpose Statement.*

**School Leadership Commitment:** School leadership will model, promote, and inspire others to support and embrace this philosophy by demonstrating respect for students, parents, teachers, and community members through the way they lead, relate, and communicate, while supporting teachers as they work to fulfill their commitment of establishing a culture of respect.

**Teacher Commitment:** Teachers will model, promote, and inspire others to support and embrace this philosophy by establishing a respectful environment where each child has a positive relationship with a caring adult, where a student is treated as an individual, and where teachers work collaboratively with all parties involved highlighting the positive in each student and holding them accountable in a fair, productive manner when expectations are not being met.

**Student Commitment:** Students will model, promote, and inspire others to support and embrace this philosophy by following school wide and classroom expectations at all times in action and in attitude, addressing and/or reporting behaviors that are unsafe or disrespectful to themselves or others, accepting responsibility for their actions, taking steps to resolve the issue, and when necessary, accepting consequences for failing to meet expectations.

**Parent Commitment:** Parents will model, promote, and inspire others to support and embrace this philosophy by reinforcing school wide and classroom expectations at home and by supporting staff members through communication & collaboration, helping to identify, address and overcome any obstacles in the process.

### Response Plan for Infractions at the Elementary and Middle School Teacher Level

#### Teacher-Level Infractions

#### Recommended Response

**Failure to follow core academic expectations or directions in class**, including, but not limited to, not bringing classroom materials, not participating in activities, not completing work in a reasonable time frame, etc.

**Step 1: Address Problem Behavior**

*-Including, but not limited to, redirection towards positive behavior, modeling, private conversation with the student, etc.*

**Step 2: Remove Privilege**

*-Including, but not limited to, leaving class last, changing seats or groups, losing participation points, being restricted from an activity and assigned an alternate activity, etc.*

**Failure to follow core behavioral expectations or directions in class**, including, but not limited to, not following general classroom procedures, talking without permission, causing minor distractions or disruptions, being disrespectful to staff in minor ways, sleeping or having head down, drinking or eating without permission (including candy and gum), etc.

**Step 3: Contact Home**

**Step 4: Contact Home & Assign Detention**

**Step 5: Submit Referral to School Leadership**

*-Depending on the situation, it may not be feasible to make a parent contact or assign a detention prior to writing referral.*

*-At any point in the process, teachers may contact school leadership with questions or concerns prior to officially referring a student.*

*-The infractions listed above are not exhaustive. Related infractions will be handled in a similar way as outlined above.*

*-The consequences in the discipline plan are **recommended responses** and may be adjusted after considering the student and the situation, including the age of the student, the severity of the infraction, the frequency of the infraction, and/or the student's disability.*

## K-8 Response Plan for Infractions at the School Leadership Level

Category One Infractions	Recommended Response
<b>1a. Classroom Tardy</b> <i>Consequences for tardiness reset each quarter.</i>	<b>Level I (One to Six Infractions)</b>
	Parent Contact
	<b>Level II (Seven to Nine Infractions)</b>
	Detention
	<b>Level III (Ten or More Infractions)</b>
Administrative Conference	
Category Two Infractions	Recommended Response
<b>2a. Classroom Procedures Violation</b> , including, but not limited to, continuing or consistent choices to not follow general classroom procedures, not bring classroom materials, not participate in classroom activities, not complete work in a reasonable time frame, talk without permission, disrupt or distract in minor ways, sleep or have head down, drink or eat without permission (including candy and gum), etc. This applies to bus and cafeteria procedures. For elementary school, this infraction may also include not following dress code. <b>2b. Irresponsible Behavior</b> leading to things such as loss or damage of a student’s property, incidental physical contact or offense, concern or embarrassment of a student, if to a degree necessary to involve school leadership. <b>2c. Irresponsible Behavior</b> , including, but not limited to, acting in a manner that is risky or unsafe for oneself or others, as well as causing messes or minor property damage, if to a degree necessary to involve school leadership. This also includes unsafe driving, not including related infractions in higher categories. <b>2d. Dress Code Violation</b> <b>2e. Campus Procedures Violation</b> , including, but not limited to, not following all procedures for hallway movement, class transitions, lunch, arrival and dismissal, as well as taking unauthorized routes. This also includes parking violations and unauthorized food orders. This does not include related infractions in higher categories. <b>2f. Failure to Serve Detention</b> (This infraction applies only to middle and high school students). <b>2g. Misuse of Technology</b> , including not meeting the following technology requirements: -During instructional time, technology must remain silent and away unless explicit staff permission has been granted at that time. “Silent” refers to the absence of any kind of noise generated by the device and “away” refers to the device and accessories being completely out of sight. The instructional time requirement applies to hallways, restrooms, and other areas on campus. -During lunch and transitions outside of buildings, students may use technology for communication, listening to music with headphones, and other school-appropriate purposes. -In addition to receiving the recommended disciplinary response, students who are assigned a 2g infraction will be required to temporarily surrender the device to school leadership. Failure to comply will result in a “5a: Disrespect towards an Adult” infraction. <b>2h. Excessive Display of Affection</b> , not including related infractions in higher categories (Middle school students are permitted to hold hands and give brief hugs.). <b>2i. Possession or Unsupervised Use of Non-Prescription Medicine</b> , not including related infractions in higher categories. <b>2j. Unauthorized Sale/Distribution of Merchandise</b> , not including related infractions in higher categories.	<b>Level I ( One Infraction)</b>
	Parent Contact
	<b>Level II (Two to Three Infractions)</b>
	Elementary School: 2. Parent Conference with AP 3. Parent Conference with Principal  Middle School: Detention
	<b>Level III (Four or More Infractions)</b>
At least one day Out of School Suspension (OSS)	
Category Three Infractions	Recommended Response
<b>3a. Disrespect to Adult</b> , including, but not limited to, being slow to comply and arguing or disputing. This does not include related infractions in higher categories. <b>3b. Disrespect to Student</b> , including, but not limited to, unwelcome flirting or propositions, name calling, mocking, ridiculing, insulting, taunting, slandering, retaliating or excluding in any form or for any reason, throwing an object at someone in a way that is not aggressive, interacting with personal property without permission regardless of whether or not damage occurs, if to a degree that seems necessary to involve school leadership. Infractions involving physical contact and/or property damage may receive a higher-level consequence. <b>3c. Irresponsible Behavior</b> leading to the minor injury of someone, <i>if</i> to a degree that seems necessary to involve school leadership. <b>3d. Lying to an Adult or Failing to Provide Necessary Information</b> , including intentionally withholding information, giving misleading information, impeding an investigation, etc. <b>3e. Leaving Class without Permission</b> , not including related infractions in higher categories.	<b>Level I (One to Two Infractions)</b>
	Elementary School: Parent Contact/Conference
	Middle School: Detention
	<b>Level II (Three to Four Infractions)</b>
	At least one day OSS
<b>Level III (Five or More Infractions)</b>	
At least three days OSS	

<p><b>3f. Using or Displaying Profanity, Vulgarity or Discriminatory Language or Gestures</b> not connected to or directed towards a specific person or used in a way that may seem to be connected to or directed towards a certain person. This also applies to audio and video content, as well as content on clothing, but does not include related infractions in higher categories.</p>	
<p><b>Category Three Infractions (Continued)</b></p>	<p><b>Recommended Response</b></p>
<p><b>3g. Possession of Profane, Vulgar, Pornographic or Graphically Violent Materials</b> in any medium, also including such images that may have been drawn or created. This does not include related infractions in higher categories.</p> <p><b>3h. Supporting, Promoting or Glorifying Offensive, Disturbing, Unethical or Illegal Activity</b> through comments, conversations, images, signals, drawings, media, attire, etc. This does not include related infractions in higher categories.</p> <p><b>3i. Possession or Unsupervised Use of One’s Own Prescription Medicine</b>, not including related infractions in higher categories.</p>	<p><b>Level I (One to Two Infractions)</b></p> <p>Elementary School: Parent Contact/Conference</p> <p>Middle School: Detention</p> <p><b>Level II (Three to Four Infractions)</b></p> <p>At least one day OSS</p> <p><b>Level III (Five or More Infractions)</b></p> <p>At least three days OSS</p>
<p><b>Category Four Infractions</b></p>	<p><b>Recommended Response</b></p>
<p><b>4a. Disrespect to Adult</b>, including, but not limited to, raising the voice, expressing anger, using sarcasm, mocking, slandering, ridiculing, insulting, etc.</p> <p><b>4b. Disrespect to Student</b>, including, but not limited to, unwelcome flirting or propositions, name calling, mocking, ridiculing, insulting, taunting, slandering, retaliating or excluding in any form or for any reason, throwing an object at someone in a way that is not aggressive, interacting with personal property without permission regardless of whether or not damage occurs. Must also include things like profanity, vulgarity, or discriminatory actions connected to or directed towards a person or shown to a person in a way that is unwelcome or disrespectful. Infractions involving physical contact and/or property damage may receive a higher-level consequence. This does not include related infractions in higher categories.</p> <p><b>4c. Disrespect to Student</b>, including posturing, challenging, confronting or provoking. This may also include an attempted or minor physical contact, not serious enough to be considered a related infraction in a higher category.</p> <p><b>4d. Disruptive Behavior</b> that significantly interrupts regular school activity.</p> <p><b>4e. Cutting Class</b>, not including skipping school or leaving campus without permission.</p> <p><b>4f. Unauthorized Interaction with School/Staff Property</b> in a manner that is intentional but does not directly involve theft or vandalism. This includes intentionally making messes or leaving any area in the school in disarray.</p> <p><b>4g. Misuse of Technology</b>, including, but not limited to, recording students or staff without permission, taking and/or posting pictures or recordings (audio or video), etc. without school authorization. Tech infractions that occur during an assessment will also be reviewed as a potential 4h (Cheating and Plagiarism) infraction. This does not include related infractions in higher categories. In addition to receiving the recommended disciplinary response, students who are assigned a 4g infraction will be required to temporarily surrender the device to school leadership. Failure to comply will result in a “5a: Disrespect towards an Adult” infraction.</p> <p><b>4h. Cheating &amp; Plagiarism</b> (See student handbook for definition.)</p> <p><b>4i. Congregating</b> around a fight or disruptive activity, as well as identifying or acting with a group to cause disruption, etc.</p> <p><b>4j. Instigating</b> and/or encouraging others to use aggressive actions.</p> <p><b>4k. Interfering with a Safety Drill in any way</b>, including but not limited to acting irresponsibly, failing to follow directions, or causing a disruption.</p> <p><b>4l. Misrepresentation</b>, including but not limited to falsifying documents, entering an event without having paid the fee, speaking/acting as if you are someone else, etc. This does not include related infractions in higher categories.</p> <p><b>4m. Gambling</b> for money or personal property, not including related infractions in higher categories.</p>	<p><b>Level I (One to Two Infractions)</b></p> <p>Elementary School: Parent Conference At least one day OSS</p> <p>Middle School: Detention At least one day OSS</p> <p><b>Level II (Three to Four Infractions)</b></p> <p>At least two days OSS</p> <p><b>Level III (Five or More Infractions)</b></p> <p>At least four days OSS</p>

Category Five Infractions	Recommended Response
<p><b>5a. Disrespect to Adult</b>, including, but not limited to, public defiance, failure to comply and/or walking away without permission when being addressed by an adult. This may also include using profanity, vulgarity, discriminatory speech or communicating in a flirtatious or suggestive manner during any interaction with an adult. This does not include related infractions in higher categories.</p> <p><b>5b. Disrespect to Student</b>, including, but not limited to, unwelcome communication of a sexual nature, particularly in a manner that seems to imply a sexual advance or sexual request. This does not include related infractions in higher categories.</p> <p><b>5c. Aggression to a Student</b>, including any type of intimidating or threatening speech, gestures, or similar actions. This does not include related infractions in higher categories.</p> <p><b>5d. Assault on a Student</b>, including a physical act of anger, retaliation or intimidation such as grabbing, shoving or tackling. This does not include related infractions in higher categories.</p> <p><b>5e. Leaving Campus without Permission or Skipping School</b></p> <p><b>5f. Vandalism</b> including willful and malicious property damage or defacement valued at \$100 or less.</p> <p><b>5g. Organizing a Disruptive or Disorderly Gathering</b></p> <p><b>5h. Being in an Unauthorized Area</b>, including, but not limited to, a desk, cabinet, room, building, or fenced-in area at any time when this location is considered off limits. This also includes coming onto campus while suspended.</p> <p><b>5i. Possession of a Potentially Dangerous Device</b> not considered a weapon.</p> <p><b>5j. Refusal to Allow Search</b> of personal belongings, desk, locker, car, or related areas where a student may possess something of concern to administration and where reasonable cause has been established. This does not include related infractions in higher categories.</p> <p><b>5k. Theft</b> of item(s) valued at \$100 or less. This also applies to someone who knowingly possesses an item stolen on campus. Any act of taking or possessing property without the permission of the owner may be considered theft.</p>	<b>Level I (One Infraction)</b>
	At least one day OSS
	<b>Level II (Two to Three Infractions)</b>
	At least two days OSS
<b>Category Six Infractions</b>	<b>Recommended Response</b>
<p><b>6a. Disrespect to Adult</b>, including, but not limited to, directing profanity, vulgarity, suggestive language, or discriminatory speech toward an adult.</p> <p><b>6b. Assault on a Student</b>, including a physical act of anger, retaliation or intimidation such as spitting, smacking, slapping, kicking or hitting with an object not considered potentially dangerous. This does not include related infractions in higher categories.</p> <p><b>6c. Misuse of Technology</b>, including, but not limited to, any form of hacking of school computers or programs and/or unauthorized access to school records or computer programs. This does not include related infractions in higher categories.</p> <p><b>6d. Possession or use of electronic cigarettes, vapor pens or similar items</b>, not containing nicotine or a controlled substance.</p> <p><b>6e. Theft</b> of any item valued between \$101 and \$500. This also applies to someone who knowingly possesses an item stolen on campus. Any act of taking or possessing property without the permission of the owner may be considered theft.</p> <p><b>6f. Vandalism</b> including willful and malicious property damage or defacement valued at \$101-\$500.</p>	<b>Level I (One Infraction with no impact to minimal impact)</b>
	At least two days OSS
	<b>Level II (One Infraction with moderate to high impact)</b>
	At least three days OSS
<b>Category Seven Infractions</b>	<b>Recommended Response</b>
<p><b>7a. Disrespect to Adult</b>, including, but not limited to, making physical contact with a staff member in a way that is disrespectful but not aggressive.</p> <p><b>7b. Assault on a Student</b>, including a physical act of anger, retaliation or intimidation, such as choking or hitting with the closed fist or with an object considered potentially dangerous. This does not include related infractions in higher categories.</p> <p><b>7c. Fighting</b>, including mutually aggressive physical contact between two or more students. This does not include related infractions in higher categories.</p> <p><b>7d. Breaking and Entering</b>, including acts such as forcibly entering a building, office, classroom, locker room, locker, desk, cabinet, closet, storage container, etc.</p> <p><b>7e. Theft</b> of any item valued above \$500. This also applies to someone who knowingly possesses an item stolen on campus. Any act of taking or possessing property without the permission of the owner may be considered theft.</p> <p><b>7f. Vandalism</b>, including willful and malicious property damage or defacement valued above \$500.</p> <p><b>7g. Lighting a Fire</b> in any manner but not such that it is considered arson.</p>	<b>Level I</b>
	N/A
	<b>Level II (One Infraction)</b>
	At least three days OSS
<b>Category Seven Infractions</b>	<b>Level III (Two Infractions)</b>
	At least five days OSS OR ten days OSS and Disciplinary Reassignment

Category Eight Infractions	Recommended Response
<p><b>8a. Aggression to an Adult</b>, including, but not limited to, posturing, challenging, intimidating or any type of threatening behavior. This does not include related infractions in higher categories.</p> <p><b>8b. Bullying/Harassment</b>, including, but not limited to, a <u>pattern</u> of negative behaviors directed toward a <u>particular student</u> because of one or more distinguishing characteristics of that student, involving a real or perceived <u>power imbalance</u> and having a <u>negative impact</u> on that student’s overall educational experience (Refer also to N.C.G.S. 115C-407.15 and N.C.G.S. 14-458.1.).</p> <p><b>8c. Consensual Sexual Activity</b> of any type</p> <p><b>8d. Indecent Exposure</b>, including any public exposure of private body parts to one or more persons in a manner that is irresponsible but does not overtly communicate a sexual message or imply a sexual advance. This does not include related infractions in higher categories.</p>	<b>Level I</b>
	N/A
	<b>Level II (One Infraction)</b>
	At least four days OSS
	<b>Level III (Two Infractions)</b>
At least five days OSS OR ten days OSS and Disciplinary Reassignment	
Category Nine Infractions	Recommended Response
<p><b>9a. Assault on an Adult</b>, including any physical act of anger, retaliation or intimidation. This does not include related infractions in Category Ten.</p> <p><b>9b. Verbal Aggression</b> involving plausible threats of a severe nature towards students, staff and/or other adults.</p> <p><b>9c. Affray</b> (Fight involving two or more people in a public place that significantly disturbs others).</p> <p><b>9d. Disorderly Conduct</b> (Refer to N.C. G.S. 14-288.4.)</p> <p><b>9e. Possession, distribution, sale or use of alcohol, tobacco or similar substances</b>, including being under the influence of such substances. This applies to regular cigarettes, electronic cigarettes, vapor pens, smokeless tobacco (eg, dip/chew) and similar items.</p> <p><b>9f. Possession of chemical or drug paraphernalia.</b></p> <p><b>9g. False Alarm</b>, including, but not limited to pulling a fire alarm or calling 911, not including related infractions in Category Ten.</p> <p><b>9h. Other illegal acts</b> of similar severity to the infractions in this category.</p>	<b>Level I</b>
	N/A
	<b>Level II</b>
	N/A
	<b>Level III (One Infraction)</b>
At least five days OSS OR ten days OSS and Disciplinary Reassignment	
Category Ten Infractions	Recommended Response
<p><b>10a. Assault on a Student or Adult</b>, including, but not limited to, a violent attack that may or may not result in serious bodily injury. This may also include actions such as tampering with a person’s food or drink in a manner that could cause personal harm.</p> <p><b>10b. Sexual Assault, Sexual Offense, Taking Indecent Liberties, or Indecent Exposure</b> that overtly communicates a sexual message or implies a sexual advance.</p> <p><b>10c. Possession of a weapon, destructive device or firearm.</b></p> <p><b>10d. Possession, distribution, sale or use of another person’s prescription drugs, marijuana or a controlled substance</b>, including being under the influence of such substances (also applies to counterfeit drugs). This also applies to the distribution or sale of a student’s own prescription drugs.</p> <p><b>10e. Bomb Threat</b> or similar threat, even if a false alarm.</p> <p><b>10f. Arson</b> of any type or of any scope.</p> <p><b>10g. Gang Activity or Gang-Related Activity</b>, not including infractions in lower-level categories.</p> <p><b>10h. Other illegal acts</b> of similar severity to the infractions in this category.</p>	<b>Level I</b>
	N/A
	<b>Level II</b>
	N/A
	<b>Level III (One Infraction)</b>
At least ten days OSS and Disciplinary Reassignment	

### Other Considerations Regarding the Discipline Plan

-The infractions listed in the **Response Plan for Acts of Misconduct at the School Leadership Level** are not exhaustive, and any related or comparable infraction not specifically listed in the plan will be handled in a similar way as outlined above.

-The consequences in the discipline plan are **recommended responses** and may be adjusted after considering the student and the situation, including the age of the student, the severity of the infraction, the frequency of the infraction, the student's disability, and/or the student's discipline history from the current school year and previous school years. See following page for additional information related to students protected by law under IDEA and in conjunction with NCGS Chapter 115C - Article 27.

Due to scope and impact, infractions that include the use of **social media** or similar methods of **mass communication** will receive an increased consequence.

-If a student is assigned consequences at **Level II or higher** for infractions in **any category**, the school may remove his/her eligibility in any/all after school and extracurricular activities for a period of time.

-Any incidents involving property damage, destruction, or loss may require **financial restitution** by the student.

-In accordance with state law, a school must report the following acts to **law enforcement**: "...assault involving serious personal injury, sexual assault, sexual offense, rape, kidnapping, indecent liberties with a minor, assault involving the use of a weapon, possession of a firearm in violation of the law, possession of a weapon in violation of the law or possession of a controlled substance in violation of the law. NCGS Chapter 115C-288 (g).

-When a student uses reasonable force for the purpose of preserving physical safety, this will be considered **self-defense**. Self-defense is defined as the act by a non-aggressor victim using reasonable force to avoid being hit in order to enable oneself to get free from the attacker and notify school authorities. It is not self-defense to participate in the fight. Students who exceed reasonable force in protecting themselves will be held accountable for their actions, even though another person provoked the fight. School leadership will have the discretion to recognize the need for self-defense on an incident-by-incident basis and to determine appropriateness of consequences, if any.

-A **suspension** refers to a student's rights to attend school or participate in any school-related activity for a specified period of time being temporarily removed. Suspended students are prohibited from attending after school or evening activities on days when they are suspended as well as on non-school days and weekends that occur during the suspension period. Suspended students are not eligible to receive a refund for pre-paid events that occur during their suspension period. They are permitted to return to campus at the beginning of the first school day following the suspension and are eligible to begin attending school-related activities on that day. Dates of suspension are non-negotiable and are assigned to occur as close to the date of the infraction as possible, as determined by school leadership. Suspended students must complete homework and class work assignments in the allotted time frame they are given. Any work not completed in the allotted time frame will be recorded in the teacher grade book as 0's.

-**Disciplinary Reassignment** involves the decision to permanently remove a student from this school due to extreme non-compliance with school expectations/rules. A student that has been reassigned from School is prohibited from participation in future on-campus events and is prohibited from reenrolling in the school. Any student eligible for disciplinary reassignment may also be eligible for exclusion/expulsion as well as due process. NCGS 115C-218.60.

-Students may receive consequences for **an infraction that occurs off \*school grounds** if the infraction has or may have a direct and/or immediate impact on the orderly, efficient operation of the school or the safety/well-being of individuals in the school environment.

-**Safe Harbor**: A student on \*school grounds who inadvertently possesses or finds an object prohibited by the SCHOOL Discipline Plan shall immediately notify school staff and surrender the object. A student may approach a school staff member and voluntarily surrender the object without being subjected to discipline so long as the object is one that the student could lawfully possess off \*school grounds. "Safe Harbor" does not apply to firearms or destructive devices.

-By law, a student may be **suspended for up to 365 days** if he/she brings a firearm or destructive device onto \*school grounds.

-In accordance with state law, a school must report the following acts to the **Department of Motor Vehicles**: possession or sale of alcoholic beverages or illegal controlled substances; bringing, possessing or using a weapon or firearm on \*school grounds; and physical assault on school staff when such conduct results in a suspension that exceeds 10 days or when the student is assigned to an alternative educational setting.

**\*School grounds** includes, but is not limited to, the main campus grounds and buildings, bus stops, buses, or vehicles used for school activities and the grounds and buildings of all school-sponsored curricular or extracurricular activities occurring off campus.

## Discipline of Students with a Disability

Students identified with a disability under the Individuals with Disabilities Education Act or suspected of having a disability, are bound by the School Discipline Policy. School leadership will follow all federal and state laws and regulations regarding the discipline of students with a disability.

**Out of school suspension**—the temporary removal of a student from the school setting where services are delivered for any part of the school day. Any time a student is denied access to any part of the educational services, regardless of the time of day, it is counted as one day of out of school suspension. Short-term removal of less than 10 school days is not a change in placement. Depending on the circumstances, cumulative suspensions in the same school year totaling more than ten days could trigger the manifestation determination process.

**Long-Term Suspension**—a removal from the school setting where services are delivered for any part of the school day for more than 10 school days. If a student with an IEP is recommended for a long-term suspension, a manifestation determination meeting must be held to determine if the behavior was a manifestation of the student's disability.

**Manifestation determination**—The North Carolina Department of Education requires that the LEA, the parent, and relevant members of the child's IEP team, must meet within 10 school days of any decision to change the placement of a child with a disability. If the committee determines that the behavior was not a manifestation of the student's disability and leads to a long-term suspension for regular education students who exhibit the same behavior, a student with a disability may be given a long-term suspension. Because the student is still entitled to a free and appropriate education under IDEA, School is responsible for providing services so that the student continues to participate in the general education curriculum and to progress toward meeting the goals set out in the student's IEP.

When a student is recommended for suspension for more than 10 days (cumulative or consecutive) and the behavior was NOT a manifestation of the disability, school leadership will follow normal disciplinary procedures.

**Exceptions** to the above in the event the behavior does meet criteria for manifestation:

The school may remove the student to an interim alternative educational setting (IAES) for up to 45 days without regard to whether the behavior is determined to be a manifestation of the child's disability when:

- (1) The child carries a weapon to or possesses a weapon at school or to a school function (does not include a pocket knife with a blade less than 2 ½ inches in length), or
- (2) The child knowingly possesses or uses illegal drugs or sells or solicits the sale of controlled substance while at school or a school function (not cigarettes or alcohol), or
- (3) The child has inflicted serious bodily injury (injury that involves substantial risk of death; extreme physical pain, protracted and obvious disfigurement, or protracted loss or impairment of the function of a bodily member, organ, or mental faculty) upon another person while at school or a school function.

An IAES must be selected by the student's IEP team and must enable the student to continue to participate in the general curriculum and to receive the services and modifications in the current IEP so that he or she can make progress toward meeting goals in the IEP. The IAES must address behavior issues and create a transition plan. Placement in an IAES can last for no more than forty-five (45) days (if the IAES is result of removal because of drugs, weapons or serious bodily injury), unless the extension is reviewed and renewed by a hearing officer.

## Disciplinary Reassignment Appeal Form

*Use this form to appeal to a decision to make a disciplinary reassignment to home LEA/program. Submit to the Principal within 5 days.*

**To:**  
School

**Date:**  
\_\_\_\_\_

**From:**

\_\_\_\_\_ *Parent*  
\_\_\_\_\_ *Student*  
\_\_\_\_\_ *Mailing Address*  
\_\_\_\_\_ *Telephone Number*  
\_\_\_\_\_ *Email Address*  
\_\_\_\_\_ *School*

I wish to appeal the decision to assign my child to an alternative program for the following reason(s):

\_\_\_\_\_ School procedures, as outlined in the *Parent-Student Handbook*, were not followed by the school. Please explain.

\_\_\_\_\_ The disciplinary reassignment is not appropriate. Please explain.

\_\_\_\_\_ Other. Please explain.

*This appeal form must be submitted within 5 days of the decision or the decision becomes final. Your child's disciplinary reassignment remains in effect pending the outcome of the appeal.*

## Bus Discipline Matrix

RECOMMENDED RESPONSES						
CATEGORY	INFRACTION #1	INFRACTION #2	INFRACTION #3	INFRACTION #4	INFRACTION #5	INFRACTION #6
<b>Category 2</b>	Parent Contact	Parent Contact	1-Day Bus Suspension	3-Day Bus Suspension	5-Day Bus Suspension	Loss of Bus Privileges
<b>Category 3</b>	Parent Contact	1-Day Bus Suspension	3-Day Bus Suspension	5-Day Bus Suspension	Loss of Bus Privileges	
<b>Category 4</b>	1-Day Bus Suspension	3-Day Bus Suspension	5-Day Bus Suspension	Loss of Bus Privileges		
<b>Category 5</b>	3-Day Bus Suspension	5-Day Bus Suspension	Loss of Bus Privileges			
<b>Category 6</b>	5-Day Bus Suspension	Loss of Bus Privileges				
<b>Category 7 or above</b>	Loss of Bus Privileges					

-The category numbers above correspond with the GSCA Discipline Plan.  
 -Wording in the plan that refers to *teacher* or *classroom* also applies to *bus driver* and *school bus*.  
 -As with the GSCA Discipline Plan, the consequences above are recommended responses that may be adjusted after considering the student and the situation (including, but not limited to, the age of the student, the severity of the infraction, the frequency of the infraction, the student's disability, and/or the student's discipline history from the current school year and previous school years).

Kindergarten		1st Grade		2nd Grade		3rd - 5th Grade	
7:00 - 7:30	Arrival and Morning Work	7:00 - 7:30	Arrival and Morning Work	7:00 - 7:30	Arrival and Morning Work	7:00 - 7:30	Arrival and Morning Work
7:30 - 8:00	Morning Meeting	7:30 - 8:00	Morning Meeting	7:30 - 8:00	Morning Meeting	7:30 - 8:00	Morning Meeting
8:00 - 8:25	Language/ Word Study	8:00 - 9:00	Math Workshop	8:00 - 9:00	Spelling/Writing Workshop	8:00 - 8:50	SPECIALS
8:25 - 9:25	Reading Workshop	9:00 - 9:15	Snack	9:00 - 9:40	SPECIALS	8:45 - 9:00	Snack/Bathroom
9:25 - 10:00	Recess and Snack	9:15 - 9:40	Word Work	9:40 - 9:55	Snack/Bathroom	9:00 - 10:15	Reading Workshop
10:00 - 10:50	Writing Workshop	9:40 - 9:55	Reading Mini-Lesson	9:55 - 11:15	Reading Workshop	10:15 - 10:45	Recess
10:50 - 11:30	Specials	9:55 - 10:35	SPECIALS	11:15 - 11:45	Recess	10:45 - 11:45	Writing Workshop
11:30 - 11:45	Read Aloud	10:35 - 11:45	Reading Workshop	11:45 - 12:15	Lunch	11:45 - 12:15	Lunch/ Bathroom
11:45 - 12:15	Lunch	11:45 - 12:45	Lunch/ Recess	12:15 - 1:15	Math Workshop	12:15 - 1:15	Math Workshop
12:15 - 12:30	Quiet Time w/ Books	12:45 - 1:30	Writing Workshop	1:15 - 1:20	Energy Break	1:20 - 2:05	MTSS
12:30 - 1:15	Math Workshop & Stations	1:30 - 2:10	MTSS	1:20 - 2:10	MTSS	2:05 - 2:15	Pack-up
1:15 - 1:45	MTSS	2:10 - 2:15	Pack-up	2:10 - 2:15	Pack-up	2:20	Dismissal
1:45 - 2:05	Developmental Centers	2:20	Dismissal	2:20	Dismissal		
2:05 - 2:20	Read Aloud/ Daily Closure						

6th Grade	6th Time		7th Grade	7th Time		8th Grade	8th Time
Home Room	8:30 - 8:40 (10)		Home Room	8:30 - 8:40 (10)		Home Room	8:30 - 8:40 (10)
Core 1	8:40 - 9:40 (60)		Core 1	8:40 - 9:40 (60)		Core 1	8:40 - 9:40 (60)
MTSS	9:40 - 10:20 (40)		MTSS	9:40 - 10:20 (40)		MTSS	9:40 - 10:20 (40)
Core 2	10:23 - 11:23 (60)		Core 2	10:23 - 11:23 (60)		Elective 1	10:23 - 11:08 (45)
Core 3	11:26 - 12:26 (60)		LUNCH	11:26 - 12:06(40)		Elective 2	11:11 - 11:56 (45)
LUNCH	12:29 - 1:09 (40)		Elective 1	12:06 - 12:51 (45)		Core 2	11: 59 - 12:59 (60)
Core 4	1:09 - 2:09 (60)		Elective 2	12:54 - 1:39 (45)		LUNCH	1:02 - 1:42 (40)
Elective 1	2:12 - 2:57 (45)		Core 3	1:42 - 2:42 (60)		Core 3	1:42 - 2:42 (60)
Elective 2	3:00- 3:45 (45)		Core 4	2:45 - 3:45 (60)		Core 4	2:45 - 3:45 (60)
<b>Elective Choices</b>							
Rotation 1	PE	Computer Discoveries	Art	Robotics/Coding	Financial Literacy		
Rotation 2	Art	PE	Financial Litearcy	Computer Discoveries	Robotics/Coding		
Rotation 3	Financial Literacy	Art		PE	Computer Discoveries		
Rotation 4	Robotics/Coding	Financial Literacy	Computer Discoveries	Art	PE		

Date of this notice: 07-02-2021

Employer Identification Number:  
87-1497670

Form: SS-4

Number of this notice: CP 575 E

GRANITE STATE CHARTER ACADEMY INC  
1322 HIGH RIDGE DR  
MEBANE, NC 27302

For assistance you may call us at:  
1-800-829-4933

IF YOU WRITE, ATTACH THE  
STUB AT THE END OF THIS NOTICE.

WE ASSIGNED YOU AN EMPLOYER IDENTIFICATION NUMBER

Thank you for applying for an Employer Identification Number (EIN). We assigned you EIN 87-1497670. This EIN will identify you, your business accounts, tax returns, and documents, even if you have no employees. Please keep this notice in your permanent records.

When filing tax documents, payments, and related correspondence, it is very important that you use your EIN and complete name and address exactly as shown above. Any variation may cause a delay in processing, result in incorrect information in your account, or even cause you to be assigned more than one EIN. If the information is not correct as shown above, please make the correction using the attached tear-off stub and return it to us.

When you submitted your application for an EIN, you checked the box indicating you are a non-profit organization. Assigning an EIN does not grant tax-exempt status to non-profit organizations. Publication 557, Tax-Exempt Status for Your Organization, has details on the application process, as well as information on returns you may need to file. To apply for recognition of tax-exempt status under Internal Revenue Code Section 501(c)(3), organizations must complete a Form 1023-series application for recognition. All other entities should file Form 1024 if they want to request recognition under Section 501(a).

Nearly all organizations claiming tax-exempt status must file a Form 990-series annual information return (Form 990, 990-EZ, or 990-PF) or notice (Form 990-N) beginning with the year they legally form, even if they have not yet applied for or received recognition of tax-exempt status.

Unless a filing exception applies to you (search [www.irs.gov](http://www.irs.gov) for Annual Exempt Organization Return: Who Must File), you will lose your tax-exempt status if you fail to file a required return or notice for three consecutive years. We start calculating this three-year period from the tax year we assigned the EIN to you. If that first tax year isn't a full twelve months, you're still responsible for submitting a return for that year. If you didn't legally form in the same tax year in which you obtained your EIN, contact us at the phone number or address listed at the top of this letter.

For the most current information on your filing requirements and other important information, visit [www.irs.gov/charities](http://www.irs.gov/charities).



**Charter School Required Signature Certification**

*Note: Outlined below is a list of areas that must be certified by the proposed Board of Directors. Any forms Not Applicable to the proposed charter school indicate below with N/A and provide a brief explanation for providing such response.*

Serving on a public charter school board is a position of public trust and board members of a North Carolina public charter school: you are responsible for ensuring the quality of the school's entire program, competent stewardship of public funds, the school's fulfillment of its public obligations, all terms of its charter, and understanding/overseeing all third-party contracts with individuals or companies.

- ❖ The selected Board Attorney that he/she has reviewed with the full Board of Directors, listed within the application, all the governance documents and liabilities associated with being on the Board of a Non-Profit Corporation.

- Name of the Selected Board Attorney: Sheila Huggins
- Date of Review: April 26<sup>th</sup> 2022
- Signature of Board Members Present (Add Signature Lines as Needed):

" Sheila Huggins

" Angela C. Amnell

" Rebecca G. Gittens

" Walter

" Ronald S. Velle

" Samuel F. Edson

" Walter

- ❖ The selected Board Auditor that he/she has reviewed with the full Board of Directors, listed within the application, all the items required for the annual audit and 990 preparations.

- Name of the Selected Board Auditor: Rebekah Barr
- Date of Review: April 26<sup>th</sup> 2022
- Signature of Board Members Present (Add Signature Lines as Needed):

" Sheila Huggins

" Angela C. Amnell

" Rebecca G. Gittens

" Walter

" Ronald S. Velle

" Samuel F. Edson

" Walter

❖ If contracting with a CMO/EMO, that the selected management company has reviewed with the full Board of Directors, listed within the application, all the items required and the associated management contract and operations.

○ Name of the Contact for Selected EMO/CMO:

○ \_\_\_\_\_  
Date of Review:

○ Signature of Board Members Present (Add Signature Lines as Needed):

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

❖ If contracting with a financial management service provider that the selected financial service provider has reviewed with the full Board of Directors, listed within the application, all the financial processes and services provided.

○ Name of the Contact:

○ \_\_\_\_\_  
Name of the Selected Financial Service Provider:

○ \_\_\_\_\_  
Date of Review:

○ Signature of Board Members Present (Add Signature Lines as Needed):

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

❖ If the proposed Board of Directors, listed within the application, is contracting with a service provider to operate PowerSchool that the service provider has reviewed all of the financial processes and services provided.

○ Name of the Contact:

○ \_\_\_\_\_  
Name of the Selected PowerSchool Service Provider:

○ \_\_\_\_\_  
Date of Review:

○ Signature of Board Members Present (Add Signature Lines as Needed):

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**Certification**

I, Holly Fraccaro, as Board Chair, certify that each Board Member has reviewed and participated in the selection of the individuals and vendors attached to this document as evidenced by the full Board of Director signatures outlined above. The information I am providing to the North Carolina State Board of Education as Granite State Charter School is true and correct in every respect.

Signature Holly Fraccaro

Date 1/29/2022