Clara Science Academy Survey

Thank you for your interest in a proposed charter school in your county. Help us as we plan and develop a charter school in your community. Please share with us thoughts and feeling about public education, charter schools and what academic programs are important to you in North Carolina schools. This survey should take approximately 5 minutes to complete.

Background Information

1. Which county do you reside in?

   _____

2. Do you have pre-school or school-age children that live with you? "Circle one" No Yes

   How many? _____

School Questions

1. What type of school do your currently send them to? "Circle one"

   a) Public b)Faith-based Private c)Private non-denominational

   d) Home School e) Not in school yet

2. Charter schools offer a tuition-free alternative from regular public schools. They are publicly funded, but privately operated under a performance contract with the local school district and/or the State Department of Education. Charter schools are given flexibility from regulations in exchange for higher accountability. If given the choice, would you like there to be a charter school option in the County where you live? "Circle one" Yes or No

   Please explain your answer.

   _____
   _____
   _____

3. Would you consider sending your child or children to a charter school? "Circle one" Yes No

4. Would you like to see a charter elementary school option in your community?

   "Circle one" Yes No

5. Would you like to see a charter middle school option in your community? "Circle one" Yes No

6. Would you like to see a charter high school option in your community? "Circle one" Yes No

7. Would you be interested in a school that places an emphasis on school cultural factors such as character education, citizenship programs, school uniforms, and active parental involvement?

   "Circle one" Yes No

8. Would you be interested in a school that places an emphasis on a college prep focus?

   "Circle one" Yes No

9. Would you send your school child to a school that focuses on the Science, Technology, Engineering and math (STEM) "Circle one" Yes No

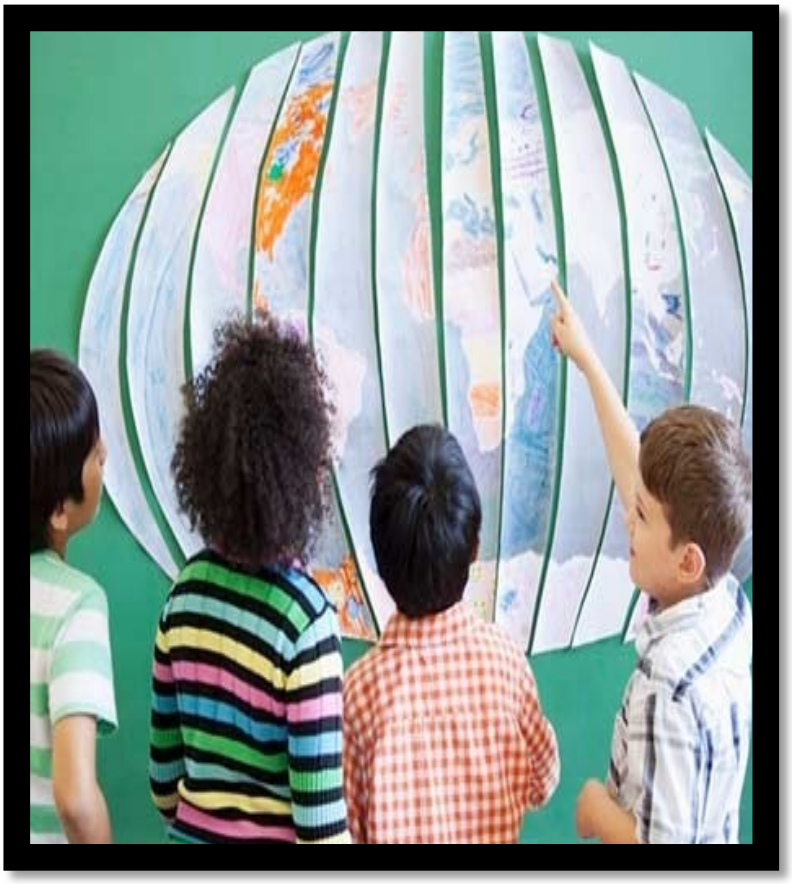
10. Are there special areas of focus or programming you would be interested in seeing offered at the proposed charter school in your area? "Circle one" Yes No Please explain,
    _____
    _____

11. Please provide any additional comments that will help us in the planning and design of a potential charter school in the area.

Thank you for your participation!

Your time and responses are appreciated, as they help us as we plan and develop a charter schools throughout the State of North Carolina.

Think Globally
Demand Excellence
Claire Science Academy Charter School



Focus on STEM and environmental education

Closer Partnership

Home visits

Performance based accountability

Student centered school structure

Tutoring

Afterschool activities

Extended school day and year

Small school environment

Global education

Teaching to think globally

Mentorship program

Community service

International trips and activities

Citizenship programs

Proposed Charter to open for the 2017-2018 school year

Meeting & Discussion March 31, 2016 at 400 Sugar Creek Road—Survey/Petition

Contact Number (704) 953 2446 or varstyc@gmail.com

Proposed Curriculum – Elementary

PROPOSED 4-5 CURRICULUM

The content that teachers are expected to address must be adequately covered in the instructional time teachers have available. The proficiency-based curriculum ensures that students have both the time and opportunity to learn and master the content expected of them within the CSA and NC Essential Standards. The NC Essential Standards and CSA are the core of the instruction and represent what the state of North Carolina considers accountable for teaching in all public schools. The school will utilize a developing proprietary month-by-month scope and sequence. For each quarter, core subject Curriculum Maps are aligned to the standards, which helps guide teachers toward meeting and exceeding the standards in the instructional time available. This ensures that the curriculum is both guaranteed and viable.

The proficiency-based curriculum ensures academic excellence in every classroom and encourages steady academic progress as students build their knowledge and skills from one year to the next. The curriculum will implement a spiral approach to curriculum design, which means that a skill is introduced, practiced, applied, and ultimately mastered at a specific grade level. A spiral curriculum model recognizes the need for a skill to be introduced again at a higher level of learning and mastery. In order to meet and exceed the standards in a standards-based curriculum, it is imperative that the textbooks and materials that would be best suited for the educational needs of the students are taken into consideration. Some instructional resources might include the Reading Wonders program for 4-5 reading and Envision for 4- 5 math, in addition to a variety of other instructional resources that are aligned to the proficiency-based curriculum and meet the needs of the student population.

The following provides an overview of the core subjects. 4-5 Reading/Language Arts

The Reading/Language Arts program will be seamlessly integrated into all subjects. As exemplified by Common Core State Standards, reading and language arts are blended to provide for an integrated approach to learning in a reading/writing workshop. CSA will not focus on one specific curriculum, but incorporate a variety of genuine texts, with a 50/50 blend of fiction and nonfiction in all grade levels. The basis for the reading program will be the Common Core Text Exemplars and a reading program, such as Reading Wonders. This combination of short stories, novels, non-fiction texts, poetry, and drama will prepare the student for real-life reading application. The teacher will scaffold the reading processes by following the steps of direct instruction, modeling, guided practice, and independent practice. Small groups will be used for individualized instruction where students may have access to leveled readings for individualized instruction. Teachers will be encouraged to use a variety of strategies to reach all students at their level. When students enter the school reading below grade level, they will have the opportunity to receive extra reading minutes to increase their growth throughout the year. To support the Reading and Language Arts teachers, CSA has included a Reading Specialist in the budget beginning in the second year of operations.

4-5 Mathematics

Our proficiency-based curriculum focuses students on accuracy of computation and mastery of basic operations, fundamental math concepts, and developing the ability to apply their knowledge to practical problem solving. All grades use word problems to promote analytical thinking skills. Teachers use various manipulative materials, including technology, before moving students to paper and pencil tasks.

4-5 Science

The science curriculum is delivered through a discovery instructional process with emphasis on scientific thinking and real world experiences. One example of an application-based science class is science lab. Students may have the opportunity to attend a science lab special during the week. This class will be focused on experiments and inquiry.

4-5 Social Studies

In social studies, students will acquire essential knowledge and develop and apply skills as they investigate society, explore issues, make decisions, and work independently and cooperatively with others. An effective social studies program provides a coordinated, systematic study, drawing upon the disciplines in the social sciences and humanities. It prepares students to be personally and socially aware, promotes multiple perspectives, encourages intellectual curiosity, enhances critical thinking skills, reinforces a broad range of communication skills, fosters positive character development, and charges students to assume responsibility for positive change and civic action.

PROPOSED MIDDLE GRADES CURRICULUM

6-8: Reading /Language Arts

Instruction will be based on the ELA Common Core State Standards. Teachers will focus on Common Core Text Exemplars and integrate real-life texts such as newspapers and research articles, providing for a 50/50 balance of fiction and nonfiction text. These competencies are integrated throughout students' learning experiences in Reading/Language Arts. Students will refine and master previously learned skills in increasingly complex reading selections, presentations, and written compositions.

Students will master the following reading skills:

- using the reading process to construct meaning
- understanding and applying literature terminology and literary devices
- recognizing and understanding the characteristics of various literary forms
- analyzing literary selections as a whole
- analyzing characters and their words and/or actions
- evaluating the author's purpose or intent, as well as actions or events that occur within the selection

Students will learn how to take notes during presentations and lectures, preparing them not only for summarizing the spoken word but also for evaluating presentations. Students will identify key elements of a well-delivered presentation allowing them to create a rubric that will be used to evaluate their own presentations.

6-8: Mathematics

The proficiency-based curriculum focuses students on the application of mental math strategies related to the mastery of basic operations, fundamental math concepts, and developing the ability to apply their knowledge to practical problem solving. All middle grades use problem solving to promote analytical thinking skills. Teachers use various strategies through real-world applications and through guided practice before moving students to independent practice.

Using strategies, skills, concepts, and technology, students will move beyond a particular problem, generalizing to other situations, and will experience the integration of mathematics into as many areas of study as possible. High school level mathematics courses will also be offered as an option for students (i.e., Algebra I, Geometry).

6-8: Science

The primary goal of the Science program is to provide instruction in the strands of the sciences: nature of matter; energy; force and motion; processes that shape the earth; earth and space; processes of life; how living things interact with their environment; and the nature of science. Instruction in the strands of science is achieved through an integrated science curriculum. The integrated science curriculum constructs thematic concepts integrating the perspectives of Biology, Chemistry, Physics, and Earth/Space Science. For example, electricity is normally only studied in Physics, but through the integrated science curriculum, students will explore the generation and conduction of electrical impulses in living organisms in Biology, how the earth's electromagnetic field is generated and detected in Earth Science, electro-chemistry in Chemistry, and electron flow and positive and negative charges in Physics/Physical Science. Through integrating science themes throughout the science curriculum students discover the many connections between the different fields of science.

6-8: Social Studies

The primary goal of the Social Studies program is to provide instruction in the strands of Geography, Economics, World History, Civics and Government, and American History. The middle school Social Studies Curriculum sets the stage for higher levels of rigor and higher academic achievement further enhanced by the CSA for Literacy in History/Social Studies. Students will be able to describe and demonstrate how the standards for Social Studies serve as the foundation for standards-based teaching and learning and students will understand history is the story of events, peoples, and places, and place these events and activities in chronological order. Students will investigate beliefs and principles of major religions, ethical systems, philosophies, and ideologies that have shaped economic, social, and political institutions and influenced the course of history.

Students will demonstrate an understanding that being a good citizen in America involves important actions, including personal and civic rights and responsibilities. Students will identify and describe national symbols, icons, songs, traditions, and individuals of the United States that exemplify cherished ideals, represent American democracy and values, and provide continuity and a sense of community across time. On a broader level, students will demonstrate an understanding of the relationship and interactions between the United States and other nations in the world.

Clara Science Academy of Charlotte

Grade 6 Math
Common Core Curriculum Map

Unit Name	Unit Length
Area and Volume	3–5 weeks
Ratios	3–5 weeks
Expressions	3–4 weeks
Equations and Inequalities	3–4 weeks
Ordering and Absolute Value	4–6 weeks
Graphing	3–5 weeks
Data Analysis	3–4 weeks
Total	**22–33 weeks**

Unit Title/Topic	**Area and Volume**	
Estimated Time	3-5 weeks	
Essential Questions	How can you extend what you already know about division to divide fractions? How can you visually represent what is happening when you divide fractions? What is the relationship between the quotient and it's factors and how they compare in size to one another? How is finding the volume of a figure by counting unit cubes similar and different to finding the volume by multiplying edge lengths? How is area, surface area, and volume similar to and different from one another? What is a net of a three-dimensional figure and how can one use it to find the surface area of the figure?	
Evidence of Learning	**Lesson Plan Template:**	General Lesson Plan
	Learning Objectives: What should students know and be able to do as a result of this lesson?	Students will generate the formula for finding the surface area of a rectangular prism.
	Guiding Questions: What are the guiding questions for this lesson?	How can you find the surface area of a rectangular prism?
	Prior Knowledge: What prior knowledge should students have for this lesson?	Students will need the following prior knowledge to be successful in this lesson: • Finding the area of a rectangle • Understand the relationship between nets and 3-dimensional figures • Understanding of faces, edges and vertices of a 3-dimensional shapes • Understand that a 3D figure can be decomposed into a 2D net
	Teaching Phase: How will the teacher present the concept or skill to students?	Begin the lesson by asking the class "What do you know about area?" Teachers will chart the group responses (see Formative Assessment section for details.) Hand out Net #1 (Net #1 is of a rectangular prism where each face has grid lines.)

		Have students cut out the Net#1 with scissors being careful not cut the tabs that will help hold the rectangular prism together. After students have finished cutting out Net#1, using a document camera, have students write “Top Face”, “Front Face” and “Right Face” on the net as shown: teaching_phase_doc_cam.docx
	Guided Practice: What activities or exercises will the students complete with teacher guidance?	Students will now work on Net#2. Net#2 does not have grid lines, but instead has some of the edges labeled with numerical measurements. Have students cut out the Net#2 with scissors and label “Top”, “Front” and “Right” like the first net. Again, have them construct the rectangular prism.This time student will need to use the area formula for a rectangle to find the area of each face. When groups are answering the following questions, be sure to correct them if they give the measurement in cm instead of cm^2. • What is the area of the “Top Face” of rectangular prism? • How did you find that answer? • What is the area of the “Front Face” of rectangular prism? • How did you find that answer? • What is the area of the “Right Face” of rectangular prism? • How did you find that answer? • What is the surface area of this rectangular prism? The final question is educative assessment. If students double the area of the “Top Face”, “Front Face” and “Right Face”, they understand that there is a congruent face to each of faces they found the area. If they only add the “Top Face”, “Front Face” and “Right Face” faces, have student unfold the prism to show that there are three more faces that were not part of the calculation of the surface area. Give student the following problem: A rectangular prism has a base of 8 inches, a height of 10 inches and a width of 5 inches. What is the surface area of this rectangular prism? (Answer: 340 in^2) Please note if students had incorrect answers such as 170 in^2 (found of the area of the top, front and right faces) or 400 in^2 (found the volume instead of surface area.)

	Independent Practice: What activities or exercises will students complete to reinforce the concepts and skills developed in the lesson?	Students will now work on Net#3. Net#3 has edges labeled with variables only (b, h, and w). Have students cut out the Net#2 with scissors and label “Top Face”, “Front Face” and “Right Face” like the first net. Again, have them construct the rectangular prism. This time have groups work together to find the following: ▪ Area of the “Top Face” ▪ Area of the “Front Face” ▪ Area of the “Right Face” ▪ Write a formula for finding the area of any rectangular prism with sides b, h, and w Have groups share out their findings. Try to show more than one correct way to find the surface area and how they are related. Below are several examples: ▪ SA = bh + bh + bw + bw + hw + hw ▪ SA = 2bh + 2bw + 2 hw ▪ SA = 2(bh + bw + hw)
	Closure: How will the teacher assist students in organizing the knowledge gained in the lesson?	With the students working in groups, the teacher will give each group a different net. The nets should be Triangular Prism and Triangular Pyramid with various dimensions. The net should have the edges labeled base (b) and width (w). Also the height (h) should be labeled on the triangle with a dotted line. The teacher asks the groups to use what they discovered from the rectangular prism activity to derive the surface area of their given figure. Have groups report out their findings to the class. While groups are reporting out, the teacher is recording on chart paper such details as the 3D shape given and the surface area formula the group derived.
	Formative Assessment:	In the beginning of the lesson, ask students what is the definition of “Area”. Give groups 30 seconds to turn and talk. Do a "whip around" the room and record group answers. A "whip around" is an instructional strategy to collect information from groups (or individual students) by asking a question and having students answer quickly. Normally the teacher will start on one side of the room and whip around to the opposite side. The teacher does not say if the answer is correct or

		incorrect during a "whip around." Groups may pass. Teacher should be looking for answers that represent the following answers: • Area is the number of unit squares on a 2-D figure • Area is measured in square units • Area can be calculated by using a formula • Area formulas are not all the same, but they all find the number of unit squares inside a figure This is used by the teacher during the teaching phase to determine the classes understanding of area and reveal any misunderstanding that would prevent the success of teaching surface area.
	Feedback to Students:	During the Guided Practice, ask students what is the surface area of the rectangular prism. If students double the area of the “Top”, “Front” and “Right”, they understand that there is a congruent face to each of faces they found the area. If they only add the “Top”, “Front” and “Right” faces, have students unfold the prism to show that there are three more faces that were not part of the calculation of the surface area.
	Summative Assessment:	Give students the following question: Jay, Ella and Wyatt are painting the outside of a box for a school project. The box is a rectangular prism with the dimensions of 18 inches by 12 inches by 10 inches. They have enough paint to cover 500 sq inches. Do Jay, Ella and Wyatt have enough paint to cover each face of rectangular prism shaped box or will they need to buy more paint? Justify your answer.
	Accommodations:	The rectangular prisms could be pre-made or constructed out of inter-locking cubes.
	Suggested Technology:	Document Camera
	Special Materials Needed:	Scissors

	Nets for MA.CC.6.G.1.4.docx
Standards	**Dominant Standard(s):** CSA.Math.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 $V = l\ w\ h$ and $V = b\ h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.
	Subordinate Standard(s): **Apply and extend previous understandings of multiplication and division.** CSA.Math.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. *For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?* **Compute fluently with multi-digit numbers and find common factors and multiples.** • CSA.Math.Content.6.NS.B.2 Fluently divide multi-digit numbers using the standard algorithm. • CSA.Math.Content.6.NS.B.3 Fluently add, subtract, multiply, and divide multi-digit decimals using the

standard algorithm for each operation.

Solve real-world and mathematical problems involving area, surface area, and volume.

- CSA.Math.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.
- CSA.Math.Content.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.

	Procedural Knowledge (Skills)	Declarative Knowledge (Content)
Unwrapped Standards	Find the volume of a right rectangular prism with fractional edge lengths. Fluently divide multi-digit numbers using the standard algorithm. Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm for each operation. Find the area of right triangles, other triangles, special quadrilaterals, and polygons. Represent three-dimensional figures using nets made up of rectangles and triangles.	Apply the formulas $V = l\ w\ h$ and $V = b\ h$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems. Interpret and compute quotients of fractions. Solve word problems involving division of fractions by fractions. Apply the techniques of composing polygons into rectangles or decomposing into triangles and other shapes in the context of solving real-world and mathematical problems. Apply techniques of using a net to determine surface area

	Use the nets to find the surface area of these figures.	in the context of solving real-world and mathematical problems.
Vocabulary	Volume, prism, edge, polygon, net, surface area, quotient, fractional, decomposing	

Math practice standards:

6.MP.1. Make sense of problems and persevere in solving them.

6.MP.2. Reason abstractly and quantitatively.

Standard Clarifications

6.MP.3. Construct viable arguments and critique the reasoning of others. 6.MP.4. Model with mathematics. 6.MP.7. Look for and make use of structure. 6.MP.8. Look for and express regularity in repeated reasoning.	Contexts and visual models can help students to understand quotients of fractions and begin to develop the relationship between multiplication and division. Model development can be facilitated by building from familiar scenarios with whole or friendly number dividends or divisors. Computing quotients of fractions build upon and extends student understandings developed in Grade 5. Students make drawings, model situations with manipulative, or manipulate computer generated models.

Unit Title/Topic	**Ratios**
Estimated Time	3-5 weeks
Essential Questions	In what ways can two ratios be proven equivalent? How are ratios and rate related? In what ways are rate and unit rate found and used in the real world?
Evidence of Learning	http://www.beaconlearningcenter.com/lessons/945.htm In this lesson, students practice finding the unit price of pre-selected items from local grocery store ads to decide which store has the best prices. (from Beacon Learning Center) http://illuminations.nctm.org/LessonDetail.aspx?ID=L511 In this lesson, "students learn to write and solve proportions by gathering data and calculating unit rates." (from NCTM's Illuminations) This is lesson 3 in a 7-lesson unit titled "Measuring Up".
Standards	**Dominant Standard(s):** • CSA.Math.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.
	Subordinate Standard(s): CSA.Math.Content.6.NS.B.4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express 36 + 8 as 4 (9 + 2).* **Understand ratio concepts and use ratio reasoning to solve problems.**

- CSA.Math.Content.6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."*

- CSA.Math.Content.6.RP.A.2 Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."*[1]

- CSA.Math.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.

  CSA.Math.Content.6.RP.A.3a Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.

  CSA.Math.Content.6.RP.A.3b Solve unit rate problems including those involving unit pricing and constant speed. *For example, if it took 7 hours to mow 4 lawns, then at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*

  CSA.Math.Content.6.RP.A.3c Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.

  CSA.Math.Content.6.RP.A.3d Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

	Procedural Knowledge (Skills)	Declarative Knowledge (Content)
Unwrapped Standards	Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Make tables of equivalent ratios relating quantities with whole-number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Solve unit rate problems including those involving unit pricing and constant speed. Find a percent of a quantity as a rate per 100. Solve problems involving finding the whole, given a part and the percent. Use ratio reasoning to convert measurement units. Manipulate and transform units appropriately when multiplying or dividing quantities.	Use ratio and rate reasoning to solve real-world and mathematical problems. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠ 0, and use rate language in the context of a ratio relationship. Use ratio and rate reasoning to solve real-world and mathematical problems. Use tables of equivalent ratios relating quantities with whole-number measurements to compare ratios.
Vocabulary	Greatest common factor, least common multiple, ratio, coordinate plane, unit rate, distributive property	
Standard Clarifications	Math Practice Standards 6.MP.1. Make sense of problems and persevere in solving them. 6.MP.2. Reason abstractly and quantitatively. 6.MP.4. Model with mathematics	

6.MP.5. Use appropriate tools strategically.
6.MP.7. Look for and make use of structure.
Examples:

- Using the information in the table, find the number of yards in 24 feet.

Feet	3	6	9	15	24
Yards	1	2	3	5	?

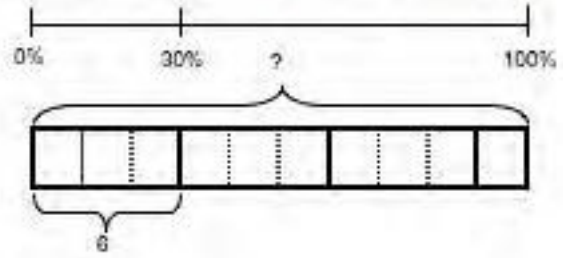
There are several strategies that students could use to determine the solution to this problem.

- Add quantities from the table to total 24 feet (9 feet and 15 feet); therefore the number of yards must be 8 yards (3 yards and 5 yards).
- Use multiplication to find 24 feet: 1) 3 feet x 8 = 24 feet; therefore 1 yard x 8 = 8 yards, or 2) 6 feet x 4 = 24 feet; therefore 2 yards x 4 = 8 yards.

- Compare the number of black to white circles. If the ratio remains the same, how many black circles will you have if you have 60 white circles?

Black	4	40	20	60	?
White	3	30	15	45	60

- If 6 is 30% of a value, what is that value? (Solution: 20)



- A credit card company charges 17% interest on any charges not paid at the end of the month. Make a ratio table to show how much the interest would be for several amounts. If your bill totals $450 for this month, how much interest would you have to pay if you let the balance carry to the next month? Show the relationship on a graph and use the graph to predict the interest

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<tr><td>Resources</td><td>http://www.khanacademy.org/video/speed-translation?playlist=Pre-algebra

http://www.sciencenetlinks.com/interactives/messenger/psc/PlanetSize.html
In order to change the planet click on the drop down. When new planets are selected, click on the word "compare" for a new comparison. Ratio is shown on the bottom of the screen and the units can be changed from kilometers to miles by clicking on the word "units".</td></tr>
<tr><td rowspan="2">Reflection</td><td>Completion Date:</td></tr>
<tr><td>Level of Student Mastery based on Unit Assessment:</td></tr>
<tr><td>Remediation</td><td>Students in need of remediation:</td><td>Lessons/Skills to be remediated in next unit:</td></tr>
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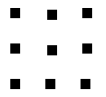
Unit Title/Topic	**Expressions**
Estimated Time	3-4 weeks
Essential Questions	In what ways do the properties of operations apply to expressions? How can one use the properties of operations to generate equivalent expressions? What are some ways that two or more expressions can be proven equivalent?
Evidence of Learning	http://illuminations.nctm.org/LessonDetail.aspx?id=L744 In this lesson, expressions representing the area or areas of two rectangles are used to enhance understanding of the distributive property, creating a visual model.
Standards	**Dominant Standard(s):** • CSA.Math.Content.6.EE.A.3 Apply the properties of operations to generate equivalent expressions. *For example, apply the distributive property to the expression 3 (2 + x) to produce the equivalent expression 6 + 3x; apply the distributive property to the expression 24x + 18y to produce the equivalent expression 6 (4x + 3y); apply properties of operations to y + y + y to produce the equivalent expression 3y*.
	Subordinate Standard(s): **Apply and extend previous understandings of arithmetic to algebraic expressions.** • CSA.Math.Content.6.EE.A.1 Write and evaluate numerical expressions involving whole-number exponents. • CSA.Math.Content.6.EE.A.2 Write, read, and evaluate expressions in which letters stand for numbers. CSA.Math.Content.6.EE.A.2a Write expressions that record operations with numbers

	and with letters standing for numbers. *For example, express the calculation "Subtract y from 5" as 5 – y*. CSA.Math.Content.6.EE.A.2b Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. *For example, describe the expression 2 (8 + 7) as a product of two factors; view (8 + 7) as both a single entity and a sum of two terms*. CSA.Math.Content.6.EE.A.2c Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas $V = s^3$ and $A = 6 s^2$ to find the volume and surface area of a cube with sides of length s = 1/2*. • CSA.Math.Content.6.EE.A.4 Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them). *For example, the expressions y + y + y and 3y are equivalent because they name the same number regardless of which number y stands for.*

Unwrapped Standards	**Procedural Knowledge (Skills)**	**Declarative Knowledge (Content)**
	Write and evaluate numerical expressions involving whole-number exponents. Write, read, and evaluate expressions in which letters stand for numbers. Write expressions that record operations with numbers and with letters standing for	Apply the properties of operations to generate equivalent expressions. View one or more parts of an expression as a single entity. Identify when two expressions are equivalent.

	numbers. Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, and coefficient). Evaluate expressions at specific values of their variables. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations).	
Vocabulary	Evaluate, expressions, exponent, sum, term, product, factor, quotient, coefficient, order of operations, parentheses, entity, equivalent	
Standard Clarifications	Math Practice Standards: 6.MP.2. Reason abstractly and quantitatively. 6.MP.3. Construct viable arguments and critique the reasoning of others. 6.MP.4. Model with mathematics. 6.MP.6. Attend to precision. 6.MP.7. Look for and make use of structure. Students use their understanding of multiplication to interpret *3 (2 + x). For example, 3 groups of (2 + x).* They use a model to represent x, and make an array to show the meaning of *3(2 + x).* They can explain why it makes sense that *3(2 + x)* is equal to *6 + 3x.* An array with 3 columns and *x* + 2 in each column:  Students interpret *y* as referring to one *y.* Thus, they can reason that one *y* plus one *y* plus one *y* ***must be*** *3y.* They also the distributive property, the multiplicative identity property of 1, and the commutative property for multiplication to prove that *y* + *y* + *y* = 3*y*: *y* + *y* + *y* = y x 1 + *y* x 1 + *y* x 1 = y x (1 + 1 + 1) = *y* x 3 = 3*y*	

Students connect their experiences with finding and identifying equivalent forms of whole numbers and can write expressions in various forms. Students generate equivalent expressions using the associative, commutative, and distributive properties. They can prove that the expressions are equivalent by simplifying each expression into the same form.

Example:

- Are the expressions equivalent? How do you know?

4m + 8 *4(m+2)* *3m + 8 + m* *2 + 2m + m + 6 + m*

Solution:

Expression	Simplifying the Expression	Explanation
4m + 8	*4m + 8*	Already in simplest form
4(m+2)	*4(m+2)* *4m + 8*	*Distributive property*
3m + 8 + m	*3m + 8 + m* *3m + m + 8* *(3m + m) + 8* *4m + 8*	*Combined like terms*
2 + 2m + m + 6 + m	*2 + 2m + m + 6 + m* *2 + 6 + 2m + m + m* *(2 + 6) + (2m + m + m)* *8 + 4m* *4m + 8*	*Combined like terms*

Resources		
Reflection	Completion Date: Level of Student Mastery based on Unit Assessment:	
Remediation	Students in need of remediation:	Lessons/Skills to be remediated in next unit:

Unit Title/Topic	**Equations and Inequalities**
Estimated Time	3-4 weeks
Essential Questions	What does it mean for an equation to have a solution? How are equations and inequalities similar to and different from one another? What does it mean for an equation or inequality to be true or false?
Evidence of Learning	http://www.learner.org/workshops/algebra/workshop1/index.html# Lesson Plan 1: Miles of Tiles - The Pool Border Problem, students will recognize patterns and represent situations using algebraic notation and variables. Lesson Plan 2: Cups and Chips - Solving Linear Equations Using Manipulative, students use manipulative to represent visually the steps they take to obtain a solution to an algebraic equation. They develop an understanding of the connections between the solution involving manipulative and the symbolic solution. Students work in teams of four. Site includes a Topic Overview, Lesson Plans, Student Work, Teaching Strategies, Resources, and a video of Workshop 1; Part 1. http://illuminations.nctm.org/LessonDetail.aspx?ID=L247 In this lesson, "students transition from arithmetical to algebraic thinking by exploring problems that are not limited to single-solution responses. Values organized into tables and graphs are used to move toward symbolic representations. Problem situations involve linear models and then quadratic and exponential models are offered as extensions." (from NCTM's Illuminations) http://illuminations.nctm.org/ActivityDetail.aspx?ID=26 Use this tool to find numerical expressions that are equivalent to one another. If equivalent expressions are placed in the blue and red pans, the scale will balance and the equation will show in the table next to the balance.
Standards	**Dominant Standard(s):** • CSA.Math.Content.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.

Subordinate Standard(s):

Reason about and solve one-variable equations and inequalities.

- CSA.Math.Content.6.EE.B.5 Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
- CSA.Math.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.
- CSA.Math.Content.6.EE.B.8 Write an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.

	Procedural Knowledge (Skills)	**Declarative Knowledge (Content)**
Unwrapped Standards	Use substitution to determine whether a given number in a specified set makes an equation or inequality true. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem. Write an inequality of the form $x > c$ or $x < c$	Solve real-world and mathematical problems by writing and solving equations. Understand solving an equation or inequality as a process of answering a question. Understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

	to represent a constraint or condition in a real-world or mathematical problem.	Recognize that inequalities of the form $x > c$ or $x < c$ have infinitely many solutions. Represent solutions of inequalities of the form $x > c$ or $x < c$ on number line diagrams.
Vocabulary	Substitution, equation, inequality, solution, variable, expressions, constraint, condition, unknown, set, infinitely	
Standard Clarifications	Math Practice Standards: 6.MP.1. Make sense of problems and persevere in solving them. 6.MP.2. Reason abstractly and quantitatively. 6.MP.3. Construct viable arguments and critique the reasoning of others. 6.MP.4. Model with mathematics. 6.MP.7. Look for and make use of structure. Students create and solve equations that are based on real world situations. It may be beneficial for students to draw pictures that illustrate the equation in problem situations. Solving equations using reasoning and prior knowledge should be required of students to allow them to develop effective strategies. Example: • Meagan spent \$56.58 on three pairs of jeans. If each pair of jeans costs the same amount, write an algebraic equation that represents this situation and solve to determine how much one pair of jeans cost. ▪ \$56.58 ▪ ▪ ▪ J J J Sample Solution: Students might say: "I created the bar model to show the cost of the three pairs of jeans. Each bar labeled *J* is the same size because each pair of jeans costs the same amount of money. The bar model represents the equation $3J = \$56.58$. To solve the problem, I need to divide the total cost of 56.58 between the three pairs of jeans. I know that it will be more than \$10 each because 10 x 3 is only 30 but less than \$20 each because 20 x 3 is 60. If I start with \$15 each, I am up to \$45. I have \$11.58 left. I then give each pair of jeans \$3. That's \$9 more dollars. I only have \$2.58 left. I continue until all the money is divided. I ended up giving each pair of jeans another \$0.86. Each pair of jeans costs \$18.86 (15+3+0.86). I double check that the jeans cost \$18.86 each because \$18.86 x 3 is \$56.58." • Julio gets paid \$20 for babysitting. He spends \$1.99 on a package of trading cards and \$6.50 on lunch. Write and solve an equation to show how much money Julio has left. (Solution: $20 = 1.99 + 6.50 + x$, $x = \$11.51$)	

20

1.99 6.50 money left over (m)

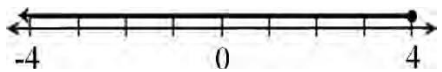
Connecting writing expressions with story problems and/or drawing pictures will give students a context for this work. It is important for students to read algebraic expressions in a manner that reinforces that the variable represents a number.

Examples:

- Maria has three more than twice as many crayons as Elizabeth. Write an algebraic expression to represent the number of crayons that Maria has.
  (Solution: $2c + 3$ where c represents the number of crayons that Elizabeth has.)
- An amusement park charges $28 to enter and $0.35 per ticket. Write an algebraic expression to represent the total amount spent. (Solution: $28 + 0.35t$ where t represents the number of tickets purchased)
- Andrew has a summer job doing yard work. He is paid $15 per hour and a $20 bonus when he completes the yard. He was paid $85 for completing one yard. Write an equation to represent the amount of money he earned.
  (Solution: $15h + 20 = 85$ where h is the number of hours worked)
- Describe a problem situation that can be solved using the equation $2c + 3 = 15$; where c represents the cost of an item Bill earned $5.00 mowing the lawn on Saturday. He earned more money on Sunday. Write an expression that shows the amount of money Bill has earned. (Solution: $5.00 + n$)

Examples:

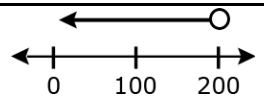
- Graph $x \leq 4$.



- Jonas spent more than $50 at an amusement park. Write an inequality to represent the amount of money Jonas spent. What are some possible amounts of money Jonas could have spent? Represent the situation on a number line.

- Less than $200.00 was spent by the Flores family on groceries last month. Write an inequality to represent this amount and graph this inequality on a number line.

  Solution: $200 > x$

		
Resources	http://www.prometheanplanet.com/en-gb/Resources/Item/105555/algebra In this video, math teacher Jonny Heeley inspires a group of students from several London schools with an active lesson about algebra. Filmed in a TV studio, this video observes Heeley as he uses a variety of games and challenges to excite and entertain pupils. In the process, he also provides maths teachers with a number of concrete and accessible ways to teach algebra. **Common Core note:** Although the title of this video is Algebra, the focus is on introducing students to power (and relative ease) of representing situations algebraically with variables. These activities are best implemented live with your own students, and they provide wonderful opportunities for students to actively engage in the practices of problem solving (MP.1) and looking for structure (MP.7) in mathematics.	
Reflection	Completion Date:	
	Level of Student Mastery based on Unit Assessment:	
Remediation	Students in need of remediation:	Lessons/Skills to be remediated in next unit:

Unit Title/Topic	**Ordering and Absolute Value**
Estimated Time	4-6 weeks
Essential Questions	What is the significance behind the sign (positive/negative) of a number? What does the sign (positive/negative) of a number tells one about its value? What are some ways positive and negative values are represented in real world situations? What relationship does the sign of a number (positive/negative) have with the distance between that number and zero? How is the process of ordering numbers the same or different when the two numbers have the same sign or different signs?
Evidence of Learning	Project/lesson idea:

Lesson Plan Template:	General Lesson Plan
Learning Objectives: What should students know and be able to do as a result of this lesson?	Students should know the number line and positive numbers. The students should be able to graph on a number line. Some guided questions would be what is a positive integer, what is the difference between integers and whole numbers. How do you graph positive integer?
Guiding Questions: What are the guiding questions for this lesson?	again, prior knowledge should be positive numbers and a number line. Students should be able to graph. What number do both positive and negative numbers work around? zero or What is the center of the number line?
Prior Knowledge: What prior knowledge should students have for this lesson?	The teacher will introduce the lesson by asking students about their experiences with money. How do you get money? Do you owe money or why do people owe money? the teacher can relate to positive bank account and negative about coming out.
Teaching Phase: How will the teacher present the concept or skill to students?	Bringing in prior knownledge will set the stage. The teacher can relate students' experiences with money. When did they get money and when did they owe. Then the students can discuss how that would look numerically.
Guided Practice: What activities or exercises will	The teacher will review the number lines and will set the directions for the game. The teacher is constantly circulating around the room.

	the students complete with teacher guidance?	
	Independent Practice: What activities or exercises will students complete to reinforce the concepts and skills developed in the lesson?	The teacher will watch and in interject as the students play the game. But the teacher can summarize the game the last two or three minutes of class. The students can share their strategies. Also there are a few practice problems for the students to complete on think pair and share.
	Closure: How will the teacher assist students in organizing the knowledge gained in the lesson?	The game allow the teacher to check for understanding of lesson. The students will play at least twice with different students. This is a better way to check for understanding. If the partners are making the same mistake and the teacher is not able to catch there mistake, then playing with a different partner will help find all mistakes. The teacher needs to look for the absolute value of 2. Many students will just think it is the opposite. So it is important to double check this fact.
	Formative Assessment:	The teacher will gather prior know by asking simple questions and giving the students a task. The teacher will be walking around the room and observing, facilitating students as they preform the activity. The bellwork is a review of a related skill and the teacher will observe and analyze the student's work as well as errors. The teacher will be able to analyze the errors.
	Feedback to Students:	Using think pair and share will help the students give feeback to eachother. also the teacher will have a chance to give feedback as facilitation continues. The teacher will also be checking for understanding throughout the lesson.
	Summative Assessment:	the final activity is playing a short game. The students will play against another student. The other student will check to see if the first student knows what the are doing. The teacher will observe and question when an error is made.
	Accommodations:	This lesson allows the students to work with each other as well as visual aids. The teacher

		checks on each students and makes sure they on target. Students are working with another who has a better understanding of math concepts.
	Extensions:	the extension would include compare the positive, negative and absolute value of expressions, thus finding greater than, less than and equal to.
	Suggested Technology:	Computer for Presenter
	Special Materials Needed:	The teacher will need to download the sheets attached onto different colored paper. the teacher will be able to attached to folders and laminate the work. The teacher will need to make a set for every two people.
	Further Recommendations:	heavy laminate as well as using card stock. I am concerned when some students make the number line, they will start with negative 1 up to negative 10, then zero, then 1 through 10. Again, some students will think the absolute value of negative 2 is 2, so the absolute value of 2 must be negative 2.
Standards	**Apply and extend previous understandings of numbers to the system of rational numbers.** ▪ CSA.Math.Content.6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. ▪ CSA.Math.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. CSA.Math.Content.6.NS.C.6a Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., –(–3) = 3, and that 0 is its own opposite.	

CSA.Math.Content.6.NS.C.6b Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.

CSA.Math.Content.6.NS.C.6c Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

- CSA.Math.Content.6.NS.C.7 Understand ordering and absolute value of rational numbers.

CSA.Math.Content.6.NS.C.7a Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret –3 > –7 as a statement that –3 is located to the right of –7 on a number line oriented from left to right*.

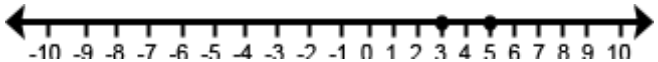
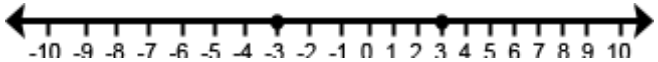
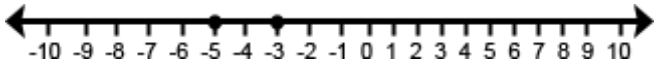
CSA.Math.Content.6.NS.C.7b Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write –3 ^{o}C > –7 ^{o}C to express the fact that –3 ^{o}C is warmer than –7 ^{o}C*.

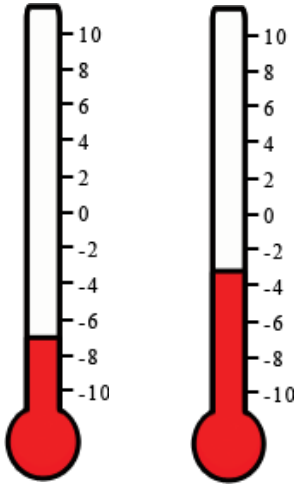
CSA.Math.Content.6.NS.C.7c Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. *For example, for an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars*.

CSA.Math.Content.6.NS.C.7d Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars*.

Unwrapped Standards	Procedural Knowledge (Skills)	Declarative Knowledge (Content)

	Use positive and negative numbers to represent quantities in real-world contexts. Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line. Recognize that the opposite of the opposite of a number is the number itself, e.g., –(–3) = 3, and that 0 is its own opposite. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane. Recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. Find and position integers and other rational numbers on a horizontal or vertical number line diagram. Find and position pairs of integers and other rational numbers on a coordinate plane. Understand ordering and absolute value of rational numbers. Understand the absolute value of a rational number as its distance from 0 on the number line.	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values. Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes to represent points on the line and in the plane with negative number coordinates. Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. Write, interpret, and explain statements of order for rational numbers in real-world contexts. Interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. Distinguish comparisons of absolute value from statements about order.

Vocabulary	Positive, negative, number line, quantity, opposite, ordered pair, quadrant, coordinate plane, reflection, axis, integer, rational number, horizontal, vertical, absolute value, inequality, magnitude
Standard Clarifications	Math Practice Standards: 6.MP.1. Make sense of problems and persevere in solving them. 6.MP.2. Reason abstractly and quantitatively. 6.MP.4. Model with mathematics. Common models to represent and compare integers include number line models, temperature models and the profit-loss model. On a number line model, the number is represented by an arrow drawn from zero to the location of the number on the number line; the absolute value is the length of this arrow. The number line can also be viewed as a thermometer where each point of on the number line is a specific temperature. In the profit-loss model, a positive number corresponds to profit and the negative number corresponds to a loss. Each of these models is useful for examining values but can also be used in later grades when students begin to perform operations on integers. In working with number line models, students internalize the order of the numbers; larger numbers on the right or top of the number line and smaller numbers to the left or bottom of the number line. They use the order to correctly locate integers and other rational numbers on the number line. By placing two numbers on the same number line, they are able to write inequalities and make statements about the relationships between the numbers. Case 1: Two positive numbers  5 > 3 5 is greater than 3 Case 2: One positive and one negative number  3 > -3 positive 3 is greater than negative 3 negative 3 is less than positive 3 Case 3: Two negative numbers  -3 > -5

	negative 3 is greater than negative 5 negative 5 is less than negative 3 Comparative statements generate informal experience with operations and lay the foundation for formal work with operations on integers in grade 7. Example: • One of the thermometers shows -3°C and the other shows -7°C. Which thermometer shows which temperature? Which is the colder temperature? How much colder? Write an inequality to show the relationship between the temperatures and explain how the model shows this relationship.  Students recognize the distance from zero as the absolute value or magnitude of a rational number. Students need multiple experiences to understand the relationships between numbers, absolute value, and statements about order. Example: The Great Barrier Reef is the world's largest reef system and is located off the coast of Australia. It reaches from the surface of the ocean to a depth of 150 meters. Students could represent this value as less than 150 meters or a depth no greater than 150 meters below sea level.
Resources	http://www.khanacademy.org/exercises?exid=ordering_numbers Khan Academy Exercise bank - Ordering numbers Students are able to use the knowledge map and progress tracking tool to record and support their learning goals. Hints are provided and supporting video tutorials are identified and linked.
Reflection	Completion Date:

	Level of Student Mastery based on Unit Assessment:	
Remediation	Students in need of remediation:	Lessons/Skills to be remediated in next unit:

Unit Title/Topic	**Graphing**
Estimated Time	3-5 weeks
Essential Questions	How can a relationship between two quantities (dependent/independent) be represented in different ways? How do the points on a coordinate plane relate to real world and mathematical problems? In what ways is it beneficial to represent a relationship between two values as an equation, graph, or table?
Evidence of Learning	http://www.nsa.gov/academia/_files/collected_learning/elementary/patterns/functions_day_trips.pdf In this 3-lesson unit, Students explore functions as they use their knowledge of patterns and number operations to analyze function tables and graph them. Using tables and graphs, students determine which items are the best deals. • This unit contains three 60 minute lessons. • Although provided, Lesson 1 Launch Activity and visual aids may not be necessary. • Overhead projector may also be omitted. • Use of basic calculators is optional.
Standards	**Dominant Standard(s):** CSA.Math.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.
	Subordinate Standard(s): • CSA.Math.Content.6.NS.C.8 Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find

<table>
<tr><td></td><td colspan="2">distances between points with the same first coordinate or the same second coordinate.

• CSA.Math.Content.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.</td></tr>
<tr><td rowspan="2">Unwrapped Standards</td><td>Procedural Knowledge (Skills)</td><td>Declarative Knowledge (Content)</td></tr>
<tr><td>Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane.
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.
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.</td><td>Use variables to represent two quantities in a real-world problem that change in relationship to one another.
Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.</td></tr>
<tr><td>Vocabulary</td><td colspan="2">Quadrant, coordinate plane, polygon, vertex, coordinate, equation, quantity, dependent, independent, variable, quantity, graph, table</td></tr>
</table>

Standard Clarifications

Math Practice Standards

6.MP.1. Make sense of problems and persevere in solving them.
6.MP.2. Reason abstractly and quantitatively.
6.MP.3. Construct viable arguments and critique the reasoning of others.
6.MP.4. Model with mathematics.
6.MP.7. Look for and make use of structure.
6.MP.8. Look for and express regularity in repeated reasoning.

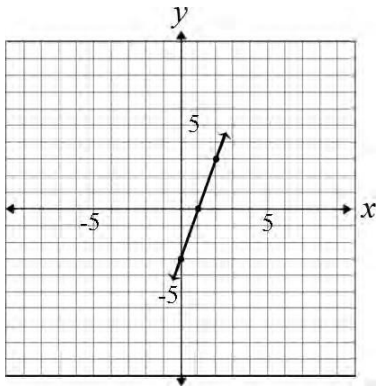
Students can use many forms to represent relationships between quantities. Multiple representations include describing the relationship using language, a table, an equation, or a graph. Translating between multiple representations helps students understand that each form represents the same relationship and provides a different perspective on the function.

Examples:

- What is the relationship between the two variables? Write an expression that illustrates the relationship.

x	1	2	3	4
y	2.5	5	7.5	10

- Use the graph below to describe the change in y as x increases by 1.



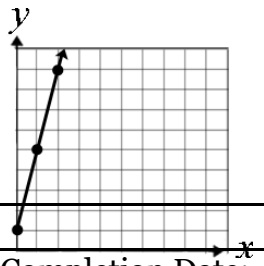
- Susan started with $1 in her savings. She plans to add $4 per week to her savings. Use an equation, table and graph to demonstrate the relationship between the number of weeks that pass and the amount in her savings account.
  - Language: Susan has $1 in her savings account. She is going to save $4 each week.
  - Equation: $y = 4x + 1$

<table>
<tr><td></td><td colspan="2">

Table:

<table>
<tr><th>x</th><th>y</th></tr>
<tr><td>0</td><td>1</td></tr>
<tr><td>1</td><td>5</td></tr>
<tr><td>2</td><td>9</td></tr>
<tr><td></td><td></td></tr>
</table>

Graph:



</td></tr>
<tr><td>Resources</td><td colspan="2"></td></tr>
<tr><td rowspan="2">Reflection</td><td colspan="2">Completion Date:</td></tr>
<tr><td colspan="2">Level of Student Mastery based on Unit Assessment:</td></tr>
<tr><td>Remediation</td><td>Students in need of remediation:</td><td>Lessons/Skills to be remediated in next unit:</td></tr>
</table>

<table>
<tr><td>Unit Title/Topic</td><td><h1>Data Analysis</h1></td></tr>
<tr><td>Estimated Time</td><td>3-4 weeks</td></tr>
<tr><td>Essential Questions</td><td>How can numbers be used to share information about a group of people?
What importance does the unit of measure have to its corresponding value? Why?
In what different ways can a group of values be portrayed/summarized?
How much difference does it make when choosing one measure of center over another?</td></tr>
<tr><td>Evidence of Learning</td><td>http://www.educationworld.com/a_lesson/03/lp293-02.shtml
Counting Candy Colors Worksheet.pdf
In this lesson, students will count candy of different colors and use the data to calculate mean, median, and mode. Groups of students will work together to share their data and calculate the measures of central tendency again. At the end of the lesson, they will apply their learning to another collection of data.

http://illuminations.nctm.org/LessonDetail.aspx?id=L204
Using The Phantom Tollbooth as a literature basis, students explore the concept of averages.

Lesson Plan Below:
Have your students become "Data Doctors" by examining and analyzing means of central tendency. This lesson is a great introduction to mean, median, mode and range. Students will be sets of data, get to work in small groups examining the sets, learn a poem that will help them remember each term and take surveys to get real data sets.
<table>
<tr><td>Lesson Plan Template:</td><td>General Lesson Plan</td></tr>
<tr><td>Learning Objectives: What should students know and be able to do as a result of this lesson?</td><td>Objective: Students will be able to determine the mean, median, mode and range from a given set of data, and will be able to learn the related vocabulary by memorizing the poem/rap.</td></tr>
<tr><td>Guiding Questions: What are the guiding questions for this lesson?</td><td>What is a set of data? How do we collect and organize data? What do we do with that data once it is collected and organized? What are some ways to analyze the data?</td></tr>
</table>
</td></tr>
</table>

	Prior Knowledge: What prior knowledge should students have for this lesson?	Methods for collecting and organizing data such as surveys, graphs, line plots and stem and leaf plots.
	Teaching Phase: How will the teacher present the concept or skill to students?	**Attention getter:** When students come in there will be an index card on their desks. Each card will have a number on it, written in different color marker. If this is not convenient, cards may be passed out randomly as students enter the room. Ask students to go to the group of chairs around the room that has the same color card taped to it and sit down. Tell them they have now become a "set" of data, or a group of information. Review the use of graphs and line plots to organize data. Once it is organized you can analyze or find ways to use the data that you've collected. Call on one group at a time to come to the front of the room. Ask them to get in order from least to greatest. Once they have done that, ask the rest of the class to check to be sure they are correct. Ask certain numbers to step forward: If you are the greatest number step forward and if you are the least number step forward- What is the difference between these two? If you are the number in the middle step forward- this where having an odd number of cards makes it easier for initial instruction. If you are the number that occurs the most in the set step forward. Ask a student in the class to add up the numbers in the set, get a total and divide by how many are in the set.- Be sure they count repeated numbers separately. **Direct Instruction**: Explain that each of those numbers has a specific name and can tell us some very specific information about our data. Call on the next group- have them do the same steps as the first, asking why we need to put in order from least to greatest first (won't be able to

		accurately determine median). This time when you ask numbers to come forward, share the vocabulary for each: The **range** is the greatest number minus the least, the **mode** is the number that occurs the most in the set, the **median** is the one in the middle- students may connect this word to the middle or median in the road-, the **mean** is the total of the set divided by how many numbers are in the set, sometimes referred to as the average. Continue to analyze each set of data until all groups have participated. MMMR Poem.docPass out the poem and read it to the class as they read along.(*This is an original poem written by this lesson plan developer, it can also be done as a rap.)* Display on board using document camera if available. Have them read it with you a few times. Tell them that they will need to memorize the poem for homework and be able to recite it in class tomorrow.
	Guided Practice: What activities or exercises will the students complete with teacher guidance?	**Guided practice**: In small groups students will be given a set of index cards with new data. They will put the set in order and determine mean, median, mode and range, writing down the results on recording sheet. When they finish one set, they can trade with another group until all sets have been analyzed. Teacher will assess students on correct data analysis through observation and questioning as they work. Whole class can review each set on the Smartboard when everyone has finished. Small groups can each have a turn to share a set.
	Independent Practice: What activities or exercises will students complete to reinforce the	MMMR Practice.docx **Independent practice** will be given the following morning for bellwork- students will be given a worksheet with 5 sets of data, they will have to correctly determine mean, median, mode and range.

	concepts and skills developed in the lesson?	
	Closure: How will the teacher assist students in organizing the knowledge gained in the lesson?	Students will add the vocabulary from the lesson in their math journals along with an example of how to find the mean, median, mode and range. They will add any questions they still have about the lesson and turn their journal into the teacher for review. The teacher should respond to each students' journal, answering questions whenever possible. Students who have the same or similar questions can be pulled for small group remediation.
	Formative Assessment:	Conduct a basic review of ways to collect and organize data such as surveys, graphs, line plots and stem and leaf plots. Students can meet in small groups and using their math journals as a resource, ask each other questions about all the data topics that have been covered so far. A great book to read that has lots of different types of graphs is Tiger Math: Learning to Graph from a Baby Tiger by Naqda & Bickel. Students must understand how and why we organize the data so that they can proceed to the next level which is to analyze that data.
	Feedback to Students:	Students will get immediate feedback through teacher observation, questioning and group work. They will be able to use this feedback to complete guided practice and the subsequent independent practice. Questions may include: What was your first step? How do you figure out which one is in the middle for the median? Did anyone do it a different way? Why do you need to put them in order from least to greatest? What would happen if you had 2 numbers that were listed the same amount of times?
	Summative Assessment:	Students will be individually assessed on how to find the mean, median, mode and range of a given set of data and their knowledge of the related vocabulary. The following day the teacher will ask each student to share the poem they have memorized. Students will take a survey of another class asking them a simple question such as what their favorite ice cream flavor is from a list of 5 flavors:

		chocolate, vanilla, strawberry, chocolate chip cookie dough or Oreo cookie. After collecting and posting the data they will find the mean, median, mode and range. Any students who are unsuccessful, can be remediated in a small group.
	Accommodations:	Accommodations are met as students work in small groups, helping each other as needed. The teacher is able to easily assist students and assess their learning. The lesson offers differentiated instruction through group work, student modeling of data, writing vocabulary, and reading and memorizing the poem.
	Extensions:	The natural extension is to use larger numbers in the set and to show real- life use of mean, median, mode and range. A good way to do this is to use a set of student grades for a particular assignment. A set of data with an even number should also be used as an extension so students can discover how to find the median- *find the mean of the 2 middle numbers*.
	Suggested Technology:	Document Camera, Computer for Presenter, Interactive Whiteboard, LCD Projector
	Special Materials Needed:	**Materials**: index cards with numbers written on with different colors- create a good set of data with numbers from 1-10 having some digits written more than once (1,2,2,3,4,7,9), initially make it an odd number of cards in each set, recording sheet for group activity, copies of poem, bellwork worksheet.
	Further Recommendations:	Be prepared with good sets of numbers- initially you need to have sets that have an obvious mode, median, and a mean that is divisible with no remainder. The worksheet attached has good sets. Once students understand the concept, then you can make the number sets more difficult. You can also create real data sets by asking simple questions such as numbers of pets students have, favorite color out of a given list, favorite fast food restaurant, etc. Collect the data- an easy way is to create a bar graph using sticky notes. List your choices on the board or on a piece of large paper and have students place a sticky note above their choice. Then they can use that data to find the mean, median, mode and range.

Standards	**Dominant Standard(s):** • CSA.Math.Content.6.SP.B.5 Summarize numerical data sets in relation to their context, such as by: ◦ CSA.Math.Content.6.SP.B.5a Reporting the number of observations. ◦ CSA.Math.Content.6.SP.B.5b Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. ◦ CSA.Math.Content.6.SP.B.5c Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. ◦ CSA.Math.Content.6.SP.B.5d Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
	Subordinate Standard(s): **Develop understanding of statistical variability.** • CSA.Math.Content.6.SP.A.1 Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. *For example, "How old am I?" is not a statistical question, but "How old are the students in my school?" is a statistical question because one anticipates variability in students' ages*. • CSA.Math.Content.6.SP.A.2 Understand that a set of data collected to answer a statistical question

<table>
<tr><td></td><td colspan="2">has a distribution which can be described by its center, spread, and overall shape.

• CSA.Math.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.

Summarize and describe distributions.

• CSA.Math.Content.6.SP.B.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</td></tr>
<tr><td rowspan="2">Unwrapped Standards</td><td>Procedural Knowledge (Skills)</td><td>Declarative Knowledge (Content)</td></tr>
<tr><td>Display numerical data in plots on a number line, including dot plots, histograms, and box plots.</td><td>Summarize numerical data sets in relation to their context.
Calculate quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation).
Describe any overall patterns and any striking deviations from the overall pattern with reference to the context in which the data were gathered.
Describe the nature of the attribute under investigation, including how it was measured and its units of measurement.
Relate the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.
Recognize a statistical question as one that anticipates variability in the data related to the question and accounts</td></tr>
</table>

		for it in the answers. Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape. 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.
Vocabulary	Data, plot, number line, dot plot, histogram, box plot, quantitative, median, mean, variability, interquartile, range, absolute deviation, attribute, statistics, spread	
Standard Clarifications	Math Practice Standards 6.MP.2. Reason abstractly and quantitatively. 6.MP.3. Construct viable arguments and critique the reasoning of others. 6.MP.4. Model with mathematics. 6.MP.5. Use appropriate tools strategically. 6.MP.6. Attend to precision. 6.MP.7. Look for and make use of structure. Students summarize numerical data by providing background information about the attribute being measured, methods and unit of measurement, the context of data collection activities, the number of observations, and summary statistics. Summary statistics include quantitative measures of center, spread, and variability including extreme values (minimum and maximum), mean, median, mode, range, quartiles, interquartile ranges, and mean absolute deviation. The measure of center that a student chooses to describe a data set will depend upon the shape of the data distribution and context of data collection. The mode is the value in the data set that occurs most frequently. The mode is the least frequently used as a measure of center because data sets may not have a mode, may have more than one mode, or the mode may not be descriptive of the data set. The mean is a very common measure of center computed by adding all the numbers in the set and dividing by the number of values. The mean can be affected greatly by a few data points that are very low or very high. In this case, the median or middle value of the data set might be more descriptive. In data sets that are symmetrically distributed, the mean and median will be very close to the same. In data sets that are skewed, the mean and median will be different, with the median frequently providing a better overall description of the data	

set.

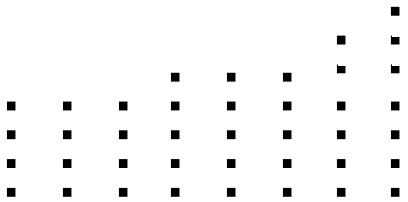
Understanding the Mean

The mean measures center in the sense that it is the value that each data point would take on if the total of the data values were redistributed equally, and also in the sense that it is a balance point. Students develop understanding of what the mean represents by redistributing data sets to be level or fair. The leveling process can be connected to and used to develop understanding of the computation of the mean.

For example, students could generate a data set by measuring the number of jumping jacks they can perform in 5 seconds, the length of their feet to the nearest inch, or the number of letters in their names. It is best if the data generated for this activity are 5 to 10 data points which are whole numbers between 1 and 10 that are easy to model with counters or stacking cubes.

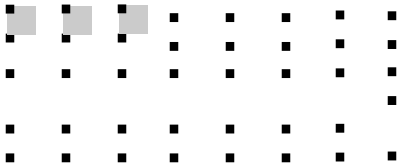
Students generate a data set by drawing eight student names at random from the popsicle stick cup. The number of letters in each of the names is used to create the data set. If the names drawn were Carol, Mike, Maria, Luis, Monique, Sierra, John, and Karen there would be 3 names with 4 letters each, 3 names with 5 letters each, 1 name with 6 letters and 1 name with 7 letters.

This data set could be represented with stacking cubes.



Students can model the mean by “leveling” the stacks or distributing the blocks so the stacks are “fair”. Students are seeking to answer the question “If all of the students had the same number of letters in their name, how many letters would each person have?”

One block from the stack of six and two blocks from the stack of 7 can be moved down to the stacks of 4 and then all the stacks have five blocks. If all students had the same number of letters in their name, they would have five letters. The mean number of letters in a name in this data set is 5.



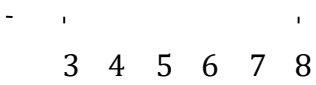
If it was not possible to make the stacks exactly even, students could begin to consider what part of the extra blocks each stack would

have.

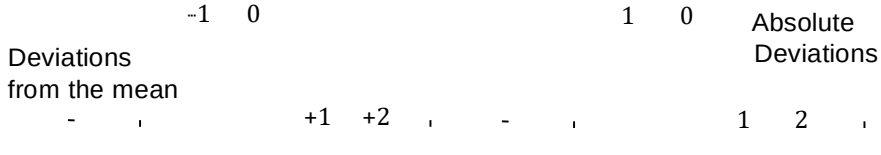
Understanding Mean Absolute Deviation

The use of mean absolute deviation in 6th grade is mainly exploratory. The intent is to build a deeper understanding of variability. Students would understand the mean distance between the pieces of data and the mean of the data set expresses the spread of the data set. Students can see that the larger the mean distance, the greater the variability. Comparisons can be made between different data sets.

In the previous data set, the names drawn were Carol, Mike, Maria, Luis, Monique, Sierra, John, and Karen. There were 3 names with 4 letters each, 3 names with 5 letters each, 1 name with 6 letters and 1 name with 7 letters. This data can be represented on a dot plot. The mean of the data set is 5.



To find the mean absolute deviation, students examine each of the data points and its difference from the mean. This analysis can be represented on the dot plot itself or in a table. Each of the names with 4 letters has one fewer letter than the mean, each of the names with 5 letters has zero difference in letters as compared to the mean, each of the names with 6 letters has one more letter than the mean, and each of the names with 7 letters has two more letters than the mean. The absolute deviations are the absolute value of each difference.



Name	Number of letters in a name	Deviations from the Mean	Absolute Deviations from the Mean
John	4	-1	1
Luis	4	-1	1
Mike	4	-1	1

Carol	5	0	0
Maria	5	0	0
Karen	5	0	0
Sierra	6	+1	1
Monique	7	+2	2
Total	40	0	6

The mean of the absolute deviations is found by summing the absolute deviations and dividing by the number of data points. In this case, the mean absolute deviation would be 6 ÷ 8 or ¾ or 0.75. The mean absolute deviation is a small number, indicating that there is little variability in the data set.

Consider a different data set also containing 8 names. If the names were Sue, Joe, Jim, Amy, Sabrina, Monique, Timothy, and Adelita. Summarize the data set and its variability. How does this compare to the first data set?

The mean of this data set is still 5. $\frac{(3+3+3+3+7+7+7+7)}{8} = \frac{40}{8} = 5$

Name	Number of letters in a name	Deviation from the Mean	Absolute Deviation from the Mean
Sue	3	-2	2
Joe	3	-2	2
Jim	3	-2	2
Amy	3	-2	2
Sabrina	7	+2	2
Timothy	7	+2	2
Adelita	7	+2	2
Monique	7	+2	2
Total	40	0	16

The mean deviation of this data set is 16 ÷ 8 or 2. Although the mean is the same, there is much more variability in this data set.

Understanding Medians and Quartiles

Students can also summarize and describe the center and variability in data sets using the median and a five number summary consisting of the minimum, quartiles, and maximum as seen in the box plot example in 6.SP.4. The median is the middle number of the data set with half the number below the median and half the numbers above the median. The quartiles partition the data set into four parts by dividing each of the halves of the data set into half again. Quartile 1 (Q1 or the lower quartile) is the middle value of the lower half of the data set and quartile 3 (Q3 or the upper quartile) is the middle value of the upper half of the data set. The median can also be referred to as quartile 2 (Q2). The range of the data is the difference between the minimum and maximum values. The interquartile range of the data is

the difference between the lower and upper quartiles (Q3 – Q1). The interquartile range is a measure of the dispersion or spread of the data set: a small value indicates values that are clustered near the median whereas a larger value indicates values that are more distributed.

Consider the first data set again. Recall that the names drawn were Carol, Mike, Maria, Luis, Monique, Sierra, John, and Karen. The data set can be represented in a numerical list. To find the median and quartile, the values are placed in order from least to greatest.

- 5 4 5 4 7 6 4 5 4 4 4 5 5 5 6 7

The middle value in the ordered data set is the median. If there are an even number of values, the median is the mean of the middle two values. In this case, the median would be 5 because 5 is the average of the 4th and 5th values which are both 5. Students find quartile 1 (Q1) by examining the lower half of the data. Again there are 4 values which is an even number of values. Q1 would be the average of the 2nd and 3rd value in the data set or 4. Students find quartile 3 (Q3) by examining the upper half of the data. Q3 would be the average of the 6th and 7th value in the data set or 5.5. The mean of the data set was 5 and the median is also 5, showing that the values are probably clustered close to the mean. The interquartile range is 1.5 (5.5 – 4). The interquartile range is small, showing little variability in the data.

4 4 4 5 5 5 6 7

Q1 = 4 Q3 = 5.5
Median = 5

Resources

Reflection

Completion Date:
Level of Student Mastery based on Unit Assessment:

Remediation

Students in need of remediation:

Lessons/Skills to be remediated in next unit:

6.MP.3. Construct viable arguments and critique the reasoning of others.

6.MP.4. Model with mathematics.
6.MP.7. Look for and make use of structure.

6.MP.8. Look for and express regularity in repeated reasoning.
Contexts and visual models can help students to understand quotients of fractions and begin to develop the relationship between multiplication and division. Model development can be facilitated by building from familiar scenarios with whole or friendly number dividends or divisors. Computing quotients of fractions build upon and extends student understandings developed in Grade 5. Students make drawings, model situations with manipulatives, or manipulate computer generated models.

Clara Science Academy

New Teacher Induction - Professional Development and Preparation	August 4 - 15
Bridge Orientation Days	August 18 – 22
First Day of School	August 25
Labor Day	September 1
Teacher Data Summit	September 25 - Students do not report
Teacher Data Summit	October 29 - Students do not report
Veteran's Day	November 11- School Holiday
Thanksgiving Break	November 26-28
Winter Break	December 22 - January 1
Teacher Data Summit	January 2 - Students do not report
School Holiday	January 19
Teacher Data Summit	January 20-Students do not report
Teacher Data Summit	March 23 – Students do not report
Spring Break	March 24 – March 27
School Holiday	April 3
School Holiday	May 25
Last Day for Students	June 8
GVC Reflection Workshop	June 9-11
School Day Start/ End Time	Approximately 8:00 am - 3:45 pm
Hours in school day	Approximately 7.5 hours
Number of Instructional Minutes per day	Approximately 400
Number of Instructional School Days per year	Minimum of 185

Clara Science Academy

Religious Calendar 2018-2019

The purpose of the Religious Calendar is to identify Major Holy Days which may require an absence from school or school-related activities **of the most heavily represented faith groups among CSA students. It is not a general listing of religious observances. According to** CMS policy ACD, Section 2, states: "…examinations and other major events[1] will not be scheduled on religious holidays designated by the Superintendent…" Schools should be particularly aware of the dates below that are **bolded** since our records indicate a high level absenteeism in the district on those dates.

Religious observance requests not listed here are covered by policy ACD, Section 3, which states: "students who miss school because of religious reasons should not be adversely affected because of the absence."

Parents are required to submit written notification to the school in the event of an upcoming absence due to a religious observance including, but not limited to, those listed below.

Religion/Denomination	Holiday	Dates
Islamic/Muslim	Eid ul-Fitr (End of Ramadan)	TBA
Islamic/Muslim	**Eid-ul-Adha**	**TBA**
Jewish	**Rosh Hashanah**	**TBA**
Jewish	**Yom Kippur**	**TBA**
Jewish	Sukkot (First Days)	TBA
Jewish	Shemini Atzeret/ Simchat Torah	TBA
Hindu, Jain	Diwali-Deepavali	TBA
Baha'i	Birth of Baha'u'llah	TBA
Christian (Protestant & Catholic)	Christmas	TBA
Baha'i	Feast of Naw-Ruz	TBA
Jewish	Passover (First Days)	TBA
Christian (Protestant & Catholic)	Good Friday	TBA
Jewish	Passover (Last Days)	TBA
Jewish	Shavuot	TBA

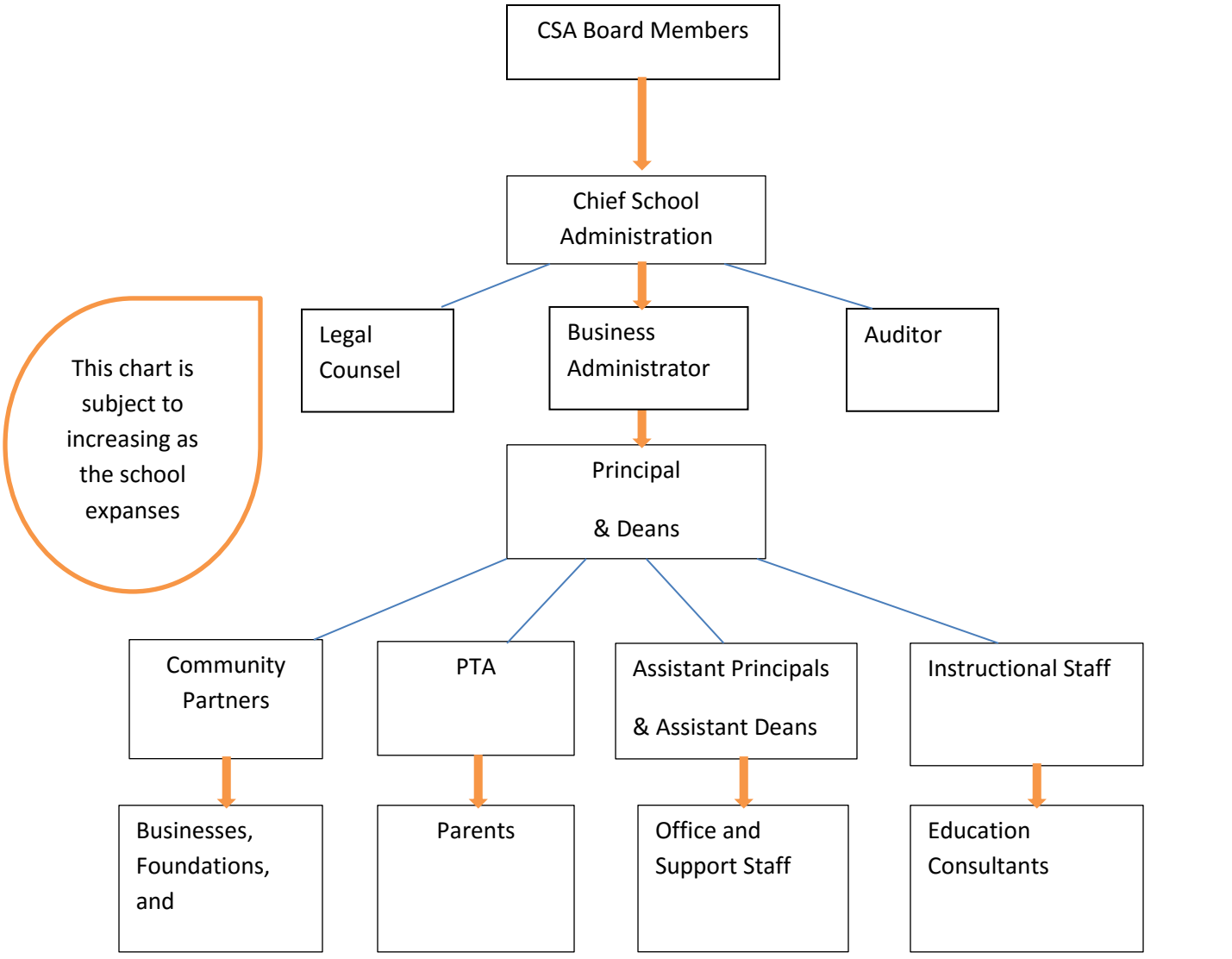
 # Religious holidays for Islam, Judaism and Baha'i begin at sundown of the night before the observance date listed, with the following day being the first full day of the holiday. The holidays conclude at nightfall. For example, Rosh Hashanah starts the evening of October 2 and ends the evening of October 4.

Clara Science Academy

*Observance	Description
Birth of Baha'u'llah	Baha'i Holy Day – The anniversary of the birth of Baha'u'llah, Prophet-founder of the Baha'i Faith.
Christmas	Celebration of the birth of Christ. (Christian)
Diwali	Also called Deepavali, is a major Indian festival that is very significant in Hinduism. Known as the "Festival of Lights," it symbolizes the victory of good over evil, and lamps (called diyas or kandils) are lit as a sign of celebration and hope for humankind.
Feast of Naw-Ruz	Baha'i New Year's Day.
First Day Ramadan	The beginning of the Islamic holy month in which Muslims fast from sunrise to sunset eac day. This does not require time off. Students who are fasting may ask to be excused fro going to cafeteria at lunch time, choosing instead to go to media center or other classroom
Good Friday	Observed by Christians the Friday before Easter. Commemorates Christ's crucifixion, death and entombment. (Christian)
Eid ul-Adha	The Festival of the Sacrifice. Marks the end of the Hajj, the pilgrimage to Mecca, in which Muslims commemorate Abraham's willingness to sacrifice his son.
Eid ul-Fitr	The Festival of the Breaking of the Fast. Muslims mark the end of Ramadan by attending congregational prayers and celebrating with friends and relatives.
Pesach/Passover	Jewish festival marking the deliverance of the Jews from slavery in Egypt.
Rosh Hashanah	Jewish New Year and holy days. Days of renewed responsibility.
Shavuot	Jewish festival that commemorates the giving of the law (Torah) to Moses on Mt. Sinai.
Shemini Atzeret	The closing day of the Jewish festival of Sukkot. A day of prayer.
Simchat Torah	Jewish holy day. Reading of the law (Torah) is completed and begun anew in the synagogue.
Sukkot	Feast of Tabernacles. Jewish festival of thanksgiving, and the remembrance of the wandering in the wilderness after their exodus from Egypt.
Yom Kippur	Day of Atonement; most solemn of Jewish holy days. Observed with fasting, prayer and repentance.

*Source: Charlotte-Mecklenburg Schools' Interfaith Council

Clara Science Academy Organization Chart



Meetings of the Governing Board are open to the public and held in accordance with the Open Meeting Law. The public is encouraged to attend meetings and share any comments, questions, or concerns regarding the Academy with the Governing Board during that time.

CSA proposed by-laws

Articles of Incorporation

This non-profit corporation is organized under and pursuant to Article under the law of North Carolina Non-Profit Corporation Act based on the following clauses.

ARTICLE I

The name of the Corporation is: Clara Science Academy Charter School.

ARTICLE II

The address of principal and registered office in the State of North Carolina is 13106 Autumn Trace Dr. County: Huntersville, State: NC 28078. The name of the registered agent at said address is Omar Muhammad

ARTICLE III
THE SCHOOL

Section 1. Name. The name of this school is "Clara Science Academy Charter School" of Charlotte, Mecklenburg County, North Carolina. This school shall be referred to throughout these Articles as the "School".

Section 2. Purpose. As provided for in North Carolina General Statue, and the Charter issued by the Board of Education of North Carolina, the purpose of this school shall be to stimulate the development of innovative programs in public education; to provide opportunities for innovative learning and assessments; to provide parents and students with greater options in choosing schools within and outside the school districts; to provide teachers with a vehicle for establishing schools with alternative, innovative methods of educational instruction and school structure and management; to encourage performance based educational programs; to hold teachers and school administrators accountable for students' educational outcomes; and to provide models for replication in other public and private schools. The School is organized exclusively under the provisions of North Carolina General Statue, and shall be a public school of choice offering North Carolina students a rigorous education that puts them on the path to college and cultivates their ability to contribute to the larger community through their work.

ARTICLE IV
BOARD OF TRUSTEES

Section 1. Responsibilities and Powers. The affairs and responsibilities of the School shall be directed and controlled by a Board of Trustees which shall be a public entity under the laws of North Carolina, to be constituted in a manner provided in Section 2 of this Article II, which may exercise all the lawful powers of the School.
Without limiting the generality of the foregoing, the Board of Trustees shall be responsible for each of the following:

a) Establishment of short and long-range objectives and goals of the School.

b) Review and adoption of policies and programs to achieve the established objectives of the School as described in the North Carolina General Statue and these Articles and that offer educational methods which provide a curriculum and an education of the highest quality for children.

c) Establishment of administrative and fiscal controls to ensure successful implementation of approved policies and programs.

d) Provision of a physical plant and equipment adequate for the immediate and future needs of the School, as well as adoption and implementation of sound plans for the physical development of the School.

e) Establishment of sound fiscal policy for the School, including but not limited to (i) review and adoption of annual operating and capital budgets; (ii) management of endowments, and (iii) implementation of development and fund raising programs.

f) Engagement of a qualified Executive Director, who shall be the Chief Executive Officer of the School, responsible for implementing approved policies and programs, and hiring, evaluating, managing and terminating faculty and administrative faculty and personnel as required for the effective operation of the School and cooperating with area educational institutions to insure maximum exchange of ideas and concepts having application to education of children.

g) Ensuring that the School and the Board shall comply with all applicable laws and regulations.

h) Ensuring that the School is an academic success, organizationally viable, faithful to its charter and earns charter renewal as required.

i) Ensuring that Trustees shall not discriminate against potential members of the Board of Trustees on the basis of age, sex, sexual orientation, race, national origin, ancestry, religion, marital status, or non-disqualifying handicap or mental condition. In addition and in furtherance of all powers conferred on them by law, the Board of Trustees, acting in the name and on behalf of the School, shall have the following powers:

j) To retain and hold for so long a time as they deem advisable any real or personal property of any kind which the School may receive from any source whatsoever without being liable to any person for such retention, even though such property may not be included in what are generally considered proper investments for fiduciaries or may constitute a larger proportion of the property of the School than is usually considered proper.

k) To purchase real and personal property; to invest and reinvest the property of the School; to sell at public sale, exchange, transfer, or grant options to purchase the whole or any part of the property of the School, real or personal, at any time held by it, upon such terms and conditions as they may deem best, and consistent with current statutory laws and regulations from time to time promulgated, and to execute, acknowledge and deliver such deeds, contracts or other instruments as they may deem necessary or advisable in connection with any such purchase, sale, exchange, option or transfer.

l) To determine in accordance with generally accepted accounting principles whether any money or other property, received by the School shall be treated as Principal or as income, and to determine in accordance with such principles the extent to which expenses the School shall be borne as between Principal and income; and this power shall include, without limitation, the power to determine in case any investment shall at any time be made in any bond or security for money at a premium or in a wasting investment so-called or in non-income producing property, the extent to which such investment shall be dealt with as Principal or as income.

m) With respect to any security which is part of the property of the School, to vote or grant proxies to vote such security, to take any action deemed appropriate in connection with any merger, consolidation or reorganization and to exercise any conversion, subscription, or other right pertaining to such security.

n) To lease, with or without option to purchase, any real estate at any time held by the School, for such term or terms, and upon such provisions and conditions, as they shall determine, and to alter, repair, demolish, rebuild and improve any building which is at any time part of the property of the School.

o) To borrow money on such terms as they deem proper and to mortgage or pledge property, real or personal, of the School to secure the same.

p) To invest in and retain for so long a period as they see fit the shares, preferred or common, of investment companies or investment trusts, whether of the open-end or closed-end type, and without notice to anyone to participate in any common trust or pooled fund.

q) To invest such portion of the funds of the School as the Trustees may from time to time determine in such securities as the Trustees in their uncontrolled discretion shall consider likely to result in future appreciation of Principal, even though the securities so purchased may pay currently only small dividend in proportion to their cost, or no dividend at all, and there is no reasonable prospect of a higher dividend rate, or of any dividend, for an indeterminate or extended time in the future.

r) To invest such portion of the funds of the School as the Trustees may from time to time determine in securities the income from which is exempt from federal or state income tax, and to hold the same, even though such securities would not normally or usually for any reason be considered proper investments for fiduciaries.

s) To adjust, settle, arbitrate or compromise any claim or claims of any nature payable to or made against the School, including any claims for taxes upon any terms satisfactory to them.

t) To hold, retain, purchase, dispose of or otherwise deal with insurance or annuities on the life of any officer or employee of the School for the benefit of the School, and to pay all premiums and costs thereof from the funds of the School.

Section 2. Number and Election of Trustees. The Board of Trustees shall consist of not less than six (6) nor more than eighteen (18) Trustees. Fourteen (14) days at least prior to the annual meeting of the Trustees, as established by Section 6 of this Article II, candidates shall be nominated to succeed any one or more retiring Trustees, and the Trustees shall elect new Trustees by a majority vote at the annual meeting of the Trustees each year. In addition, the Trustees may at any time elect new Trustees by a majority vote at any regular or special meeting of Trustees. The Executive Director shall be a non-voting ex officio member of the Board of Trustees. Each Trustee elected by the serving Trustees at any annual, regular or special meeting shall serve a term of three (3) years, or the remaining term of a vacancy, commencing on the next following board meeting and expiring on the third Annual Meeting after appointment. Once elected, the name of each Trustee shall be published in the School Newsletter or other appropriate publication of general circulation to the School community. The term for Trustees serving on the initial Board of Trustees may be for greater than three years in order that the Board may achieve a coordinated expiration of the Trustee's term of office, as provided for in Section 3 hereof. At the expiration of each three-year term, any Trustee may thereafter be elected to serve an additional three-year term by a vote of a majority of Trustees. Trustees may serve no more than three (3) consecutive terms.

Section 3. Continuity. The term of office for each Trustee and the number of Trustees elected by the Board from time to time should be focused on achieving a Board consisting of not less than one-half (½) of Trustees with prior service.

Section 4. Resignation. Any Trustee may resign by delivering or causing to be delivered to the Secretary a written resignation which shall take effect upon the acceptance by the Board at any meeting.

Section 5. Removal. Any Trustee may be removed from office with or without cause by the vote of a majority of all the Trustees then in office. A Trustee may be removed for cause only after being afforded reasonable notice and an opportunity to be heard before the Board of Trustees.

Section 6. The Annual Meeting of the Board shall be held on the August of each year or other date and time as may be established by the Board. Seven (7) days written notice of the Annual Meeting shall be given to all Trustees then in office. Other meetings of the Board at least as frequently as quarterly may be held as the Board may determine. Notice of the place, date, hour and purpose of any such meeting of the Trustees shall be given or caused to be given by the Chairperson to each Trustee at least seven (7) days prior to the meeting and shall be open to the public . Special meeting may be held at any time without such notice, if all the Trustees are present or if those not present execute a written waiver of notice before or after the meeting and the Board has fully complied with the provisions.

Section 7. Quorum. A majority of the Trustees then in office shall constitute a quorum for the transaction of business. Less than a quorum may adjourn a meeting. Except as is otherwise required by law, or these By-laws, the action of a majority of the Trustees present at a meeting in which a quorum is present shall be the action of the Board of Trustees. Trustees must vote in person and not by email, proxy or otherwise.

Section 8. Minutes. The Trustees shall maintain accurate records of its meetings, setting forth the date, time, place, members present or absent and action taken at each meeting, including executive sessions. The records of each meeting shall become a public record and be available to the public; provided, however, that the records of any executive session may remain secret as long as publication may defeat the lawful purposes of the executive session, but no longer. All votes taken in executive sessions shall be recorded roll call votes and shall become a part of the record of said executive sessions. No votes taken in open session shall be by secret ballot.

ARTICLE VI
COMMITTEES

The standing committees of the Board of Trustees shall be the Academic Excellence Committee, the Development Committee, the Finance Committee, the Governance Committee, and the Strategic Planning and Assessment Committee. The Board of Trustees may establish such other committees having such duties, responsibilities and powers and consisting of such number of persons as the Board of Trustees shall determine. The members and chairs of committees shall be appointed by the Board of Trustees Chairperson. Committee chairs must be Trustees, and committee members may be Trustees, parents, teachers and members of the community. All committees will have a description of their responsibilities and an annual charge approved by the Board of Trustees.

ARTICLE VI
OFFICERS

Section 1. Principal Officers: Election Thereof: Eligibility. The officers of the School shall be a Chairperson, a Vice Chairperson, a Treasurer, a Secretary, and such other officers as the Board of Trustees may elect or appoint. Each officer, as a condition for election and continued service, must be a Trustee. Such officers shall be elected by the Board of Trustees at the Annual Meeting of the Board or with respect to the initial Board of Trustees at the initial meeting thereof. Subject to the provisions of Sections 2, 3 and 4 of this Article IV, the Chairperson, the Vice Chairperson, the Treasurer and the Secretary shall each hold office until the next Annual
Meeting of the Board of Trustees and until their respective successors are elected.

Section 2. Chairperson. The Chairperson shall work closely with the Executive Director and other members of the Board of Trustees to advance the mission of the School. The Chairperson and School Leader shall work closely together to support and facilitate the work of the Board of Trustees. The Chairperson shall preside at all meetings of the Board of Trustees. The Chairperson shall, upon the advice and counsel of other members of the Board and the Executive Director, set the agenda for all meetings and shall conduct the meetings in an orderly, thorough, fair, and proper fashion so as to encourage full discussion and proper action by the Board on all issues to be decided. The

Chairperson shall, with the advice and counsel of other members of the Board and the Executive Director, appoint committee chairs and members, and have such other powers as the Board of Trustees may determine or designate from time to time.

Section 3. Vice Chairperson. The Vice Chairperson shall have such powers and perform such duties as may be assigned by the Board of Trustees. In the absence or disability of the Chairperson, or in case of an unfilled vacancy in that office, the Vice Chairperson shall perform the duties and exercise the powers of the Chairperson.

Section 4. Treasurer. The Treasurer shall be responsible for the care and custody of the money, funds, valuable papers and documents of the School and shall have and exercise all the powers and duties commonly incident to such office. The Treasurer may endorse or cause to be endorsed for deposit or collection all checks, notes, drafts and instruments for the payment of money, payable to the School or to its order, and shall cause to be kept accurate books of account of all moneys received and disbursed. If required by the Board of Trustees, the School shall provide a bond covering the Treasurer in such sum and such surety or sureties as shall be satisfactory to the Board for the faithful performance of the duties of this office.

Section 5. Secretary. The Secretary shall be responsible for maintaining accurate minutes of all meetings of the Board of Trustees, shall perform all the duties commonly incident to this office, and shall perform such other duties and have such other powers as the Board of Trustees shall from time to time designate or as may be otherwise provided for in these By-laws. In the absence of the Secretary, a Secretary Tempore may be appointed by the Trustees to perform such duties.
Section 6. Additional Officers. The Board of Trustees in its discretion may appoint an Assistant Treasurer and an Assistant Secretary and may prescribe their duties and their terms of office.

ARTICLE VII
BOARD OF TRUSTEES ADVISORY COUNCIL

Section 1. Membership. The Board of Trustees Advisory Council shall be made up of members of the community and other individuals whose talents and background will make them helpful advisors to the School.

Section 2. Appointments. Members of the Council are appointed to an annual term by the Board of Trustees upon the recommendation of the Board of Trustees Chairperson. Appointments may be made at any regular or special meeting of the Board of Trustees.

Section 3. Meetings. Members of the Board of Trustees Advisory Council shall meet at least once a year at a time determined by the Board of Trustees Chairperson. At that time the Chairman and other members of the Board of Trustees shall present reports on the state of the School and plans for the future and solicit the input of the members of the Advisory Council. Other meetings of the Council may be scheduled by the Board of Trustees Chairperson as necessary.

Section 4. Duties. Members of the Council shall provide the Board of Trustees and Executive Director with general advice and counsel, promote the School in the community, and recommend potential resources of financial support. Members of the Council may also be asked to serve on committees.

ARTICLE VIII
INDEMNIFICATION OF TRUSTEES AND OFFICERS

The School shall, to the extent legally permissible, indemnify each person who may serve or who has served at any time as an officer or may serve as a trustee, against all expenses and liabilities (including counsel fees, judgments, fines, excise taxes, penalties and amounts payable in settlements) reasonably incurred by or imposed upon such person in connection with any threatened, pending or completed action, suit or other proceeding, whether civil, criminal, administrative or investigative, in which he or she may become involved by reason of his or her serving or having served in such capacity (other than a proceeding voluntarily initiated by such person unless he or she is successful on the merits, the proceeding was authorized by the School or the proceeding seeks a declaratory judgment regarding his or her own conduct); provided that no indemnification shall be provided for any such person with respect to any matter as to which he or she shall have been finally adjudicated in any proceeding not to have acted in good faith in the reasonable belief that his or her action was in the best interest of the School; and provided, further, that as to any matter disposed of by a compromise payment by such person, pursuant to a consent decree or otherwise, the payment and indemnification thereof have been approved by the School, which approval shall not be unreasonably withheld, or by a court of competent jurisdiction. Such indemnification shall include payment by the School of expenses incurred in defending a civil or criminal action or proceeding in advance of the final disposition of such action or proceeding, upon receipt of an undertaking by the person indemnified to repay such payment if he or she shall be adjudicated to be not entitled to indemnification under this article, which undertaking may be accepted without regard to the financial ability of such person to make repayment. A person entitled to indemnification hereunder whose duties include service or responsibilities as a fiduciary with respect to a subsidiary or other organization shall be deemed to have acted in good faith in the reasonable belief that his or her action was in the best interests of the corporation, if he or she acted in good faith in the reasonable belief that his or her action was in the best interests of such subsidiary or organization or of the participants or beneficiaries of, or other persons with interests in, such subsidiary or organization to whom he or she had a fiduciary duty. Where indemnification hereunder requires authorization or approval by the School, such authorization or approval shall be conclusively deemed to have been obtained, and in any case where a director of the School approves payment of indemnification, such director shall be wholly protected by, if: i the payment has been approved or ratified (1) by a majority vote or a quorum of the directors consisting of persons who are not at that time parties to the proceeding; (2) by a majority vote of a committee of two or more directors who are not at that time parties to the proceedings and are selected for this purpose by the full board (in which selection directors who are parties may participate), or (3) by the members of the corporation of disinterested; or ii the action is taken in reliance upon the opinion of independent legal counsel (who may be counsel to the corporation) appointed for the purpose by a vote of the directors or in the manner specified in clauses (1), (2) or (3) of subparagraph (i); or iii the payment is approved by a court of competent jurisdiction; or iv the directors may have otherwise acted in accordance with the standard of conduct set forth in applicable provisions of the North Carolina General Statue. Any indemnification or advance of expenses under this article shall be paid promptly, and in any event within 30 days, after the receipt by the School of a written request therefore from the person to be indemnified, unless with respect to a claim for indemnification the School shall have determined that the person is not entitled to indemnification. If the School denies the request or if payment is not made within such 30-day period, the persons seeking to be indemnified may at any time thereafter seek to enforce his or her rights hereunder in a court of competent jurisdiction and, if successful in whole or in part, he or she shall be entitled also to indemnification for the expenses of prosecuting such action. Unless otherwise provided by law, the burden of proving that the person is not entitled to indemnification shall be on the School.

The right of indemnification under this article shall be a contract right inuring to the benefit of the directors, officer and other persons entitled to be indemnified hereunder, and no amendment or repeal of this article shall adversely affect any right of such director, officer or other person existing at the time of such amendment or repeal. The indemnification provided hereunder shall inure to the benefit of the heirs, executors and administrators of a director, officer or other person entitled to indemnification hereunder. The indemnification provided hereunder may, to the extent authorized by the School, apply to the directors, officers, and other persons associated with constituent

Schools that have been merged into or consolidated with the school, who would have been entitled to indemnification hereunder had they served in such capacity with or at the request of the School. The right of indemnification under this article shall be in addition to and not exclusive of all other rights to which such director or officer or other persons may be entitled. Nothing contained in this article shall affect any rights to indemnification to which School employees or agents other than directors and officers and other persons entitled to indemnification hereunder may be entitled by contract or otherwise under law. The School shall maintain or cause to be maintained liability insurance with insurance companies authorized to do business in North Carolina insuring the Trustees and officers against liabilities and expenses incurred in their capacities as Trustees and officers.

ARTICLE IX
ROBERT'S RULES

All meetings of the Board shall be governed by Robert's Rules of Order, except as otherwise provided by these By-Laws.

ARTICLE X
AMENDMENTS

These Articles may be amended at any meeting of the Trustees by a majority vote of all the Trustees then in office. Notice of the meeting must indicate the amendment(s) to be voted on.

ARTICLE XI
FISCAL YEAR

The fiscal year of the School shall end on the 30th day of June of each year.

ARTICLE XII
SEAL

The Seal of the School shall consist of a flat-faced circular die with the name of the School, the year of charter issuance, and the word "North Carolina" cut or engraved thereon.

ARTICLE XIII
PROVISIONS FOR DISSOLUTION

In the event of liquidation or dissolution of the Corporation, all the assets of the Corporation, after paying or making sufficient provision for the payment of all of the liabilities of the Corporation, shall be distributed exclusively as provided for in the North Carolina Non-profit General Statues included below:

Distributions Upon Dissolution

Upon the dissolution of the corporation, the Board of Directors shall, after paying or making provision for the payment of all of the liabilities of the corporation, dispose of all of the assets of the corporation exclusively for the purposes of the corporation in such manner, or to such organization or organizations organized and operated exclusively for religious, charitable, educational, scientific or literary purposes as shall at the time qualify as an exempt organization or organizations under Section 501(c)(3) of the Code as the Board of Directors shall determine, or to federal, state, or local governments to be used exclusively for public purposes. Any such assets not so disposed of shall be disposed of by the Superior Court of the county in which the principal office of the corporation is then located, exclusively for such purposes or to such organizations, such as the court shall determine, which are organized and operated exclusively for such purposes, or to such governments for such purposes.

NORTH CAROLINA
Department of the Secretary of State

To all whom these presents shall come, Greetings:

I, Elaine F. Marshall, Secretary of State of the State of North Carolina, do hereby certify the following and hereto attached to be a true copy of

ARTICLES OF INCORPORATION

OF

CLARA SCIENCE ACADEMY CHARTER SCHOOL

the original of which was filed in this office on the 23rd day of September, 2015.

Scan to verify online.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal at the City of Raleigh, this 23rd day of September, 2015.

Elaine F. Marshall

Secretary of State

INSURANCE PEOPLE

Below are the **estimated annual premiums** Clara Science Academy

Property Premium Estimate		**$1,085**
Building	$710,400	
Contents	$250,000	
Deductible	$1,000	
Form	Special	
Equipment Breakdown	Included	

General Liability Premium Estimate		**$1,140**
Rating Basis:	Students	75
	Faculty	12
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	

School District & Educators Legal Liability (D&O/ E&O) Premium Estimate	**$2,444**
	$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), it's 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".

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.

INSURANCE PEOPLE

Fidelity Bond Estimate		**$332**
Limit	$250,000	
Auto Premium Estimate		**$181**
Hired & Non Owned Autos Only		
Limit of Liability	$1,000,000	
Head of Class Endorsement		**$82**
Workers Compensation Premium Estimate		**$3,442**
Statutory State - NC		
Employers Liability	$500/ $500/ $500	
Payroll Estimate	$552,260	
Umbrella Premium Estimate		**$2,387**
Limit of Liability	$1,000,000	
TOTAL ESTIMATED PREMIUM		**$11,093**
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

09/02/16

INSURANCE PEOPLE

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09/02/16

Weichert, Realtors®
Rebhan & Associates
6000 Fairview Road, Ste 104
Charlotte, NC 28210
"Independently Owned & Operated"

To Whom It May Concern:

It is with confidence that I provide this letter of support for the enclosed charter school application for the Clara Science Academy. This school will provide needed enrichment, enhancement and support for young people in the Charlotte community.

Clara Science Academy is positioned to collaborate with other organizations that are also committed to providing quality education and tutorial services. Education is at the forefront of our baseline requirements for a viable, vibrant, and progressive city. As a Realtor®, I have witnessed first-hand how the community's education system can directly impact property values, and the subsequent economy.

Our community would benefit from the aggressive development of the technology skills needed to compete in our advanced society. It is my belief that Clara Science Academy can produce the talent needed. I look forward to witnessing the planning, development and execution of this noble mission.

Best Regards,

Teresa Mutakabbir

Teresa Mutakabbir Broker/Realtor®
QSC Licensed in NC & SC
WEICHERT, REALTORS® Rebhan & Associates
6000 Fairview Road, Charlotte, NC 28210
Cell: 704-564-4940 Fax: 704-553-7767
trmutakabbir@WRRAmail.com

- 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: _____N/A_____
  - 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: _____N/A_____
  - 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: _____N/A_____
  - Name of the Selected PowerSchool Service Provider: _____
  - Date of Review: _____
  - Signature of Board Members Present (Add Signature Lines as Needed):
    - _____
    - _____
    - _____
    - _____
    - _____
    - _____
    - _____

Certification

I, __Akbar Muhammad_____, 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 __Clara Science Academy Charter School is true and correct in every respect.

Akbar Muhammad _____ 9/16/16

Signature Date