Extended Content Standards
Sixth Grade

Standards for Mathematical Practice

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

The *Alternate Achievement Standards for Students With the Most Significant Cognitive Disabilities Non-Regulatory Guidance* states, "…materials should show a clear link to the content standards for the grade in which the student is enrolled, although the grade-level content may be reduced in complexity or modified to reflect pre-requisite skills. Throughout the Standards descriptors such as, describe, count, identify, etc., should be interpreted to mean that the students will be taught and tested according to their mode of communication.

Ratio and Proportional Relationships	
Standard	
Understand ratio concepts and use ratio reasoning to solve problems.	
NC.6.RP.1	Demonstrate a ratio relationship with whole numbers using pictures or numbers.
NC.6.RP.3	Find equivalent ratios by multiplying or dividing the quantities by the same whole number.

The Number System

	Standard
Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
NC.6.NS.1	Compare the relationships between two unit fractions.
Compute fluently with multi-digit numbers and find common factors and multiples.
NC.6.NS.2	Apply the concept of fair share and equal shares to divide.
NC.6.NS.3	Solve two-factor multiplication problems with products up to 50 using concrete objects and using a calculator.
Apply and extend previous understandings of numbers to the system of rational numbers.
NC.6.NS.5	Use integers to describe real world context, include zero and negative numbers.

Expressions and Equations

	Standard
Apply and extend previous understandings of arithmetic to algebraic expressions.
NC.6.EE.1	Identify equivalent number sentences.
NC.6.EE.3	Apply the properties of addition to identify equivalent numerical expressions.
Reason about and solve one-variable equations.
Reason about one-variable inequalities.

NC.6.EE.7	Identify an equation that represents a real-world problem in which variables are used to represent numbers.

Represent and analyze quantitative relationships between dependent and independent variables.

Geometry

Standard

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

NC.6.G.1	Solve real-world and mathematical problems about area using unit squares.
NC.6.G.2	N/A

Statistics and Probability
Standard
Develop understanding of statistical variability.
NC.6.SP.1	Display data on a graph or table that shows variability in the data.
Summarize and describe distributions.
NC.6.SP.4	Summarize data distributions shown in graphs or tables.

Extended Content Standards
Seventh Grade

Standards for Mathematical Practice

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

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Ratio and Proportional Relationships
Standard
Analyze proportional relationships and use them to solve real-world and mathematical problems.

NC.7.RP.1	Model part-to-whole and part-to-part ratios to compare two measures of the same type.

The Number System	
Standard	
Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	
NC.7.NS.1	Add fractions with like denominators (halves, thirds, fourths, and tenths) with sums less than or equal to one.
NC.7.NS.2	a. Solve multiplication problems with products up to 100 using a calculator. b. Solve division problems with divisors up to five and also with a divisor of 10 without remainders. c. Express any remainder as a faction.
NC.7.NS.3	Solve one-step real-world problems involving decimal numbers to the tenths place.

Expressions and Equations	
Standard	
Use properties of operations to generate equivalent expressions.	
NC.7.EE.1	Use one of the four operations to determine if expressions are equivalent.
NC.7.EE.2	Identify arithmetic sequences where the difference between two consecutive terms is constant.
Solve real-world and mathematical problems using numerical and algebraic expressions, equations, and inequalities.	
NC.7.EE.4	Use the concept of equality with models to solve one-step addition and subtraction equations.

Geometry

	Standard
Draw, construct, and describe geometrical figures and describe the relationships between them.	
NC.7.G.1	Identify two similar geometric shapes that are proportional in size and in the same orientation.
NC.7.G.2	Recognize geometric shapes with given conditions.
Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	
NC.7.G.4	Determine the perimeter of a rectangle by adding the measures of the sides.
NC.7.G.5	Recognize angles that are acute, obtuse, and right.
NC.7.G.6	Determine the area of a rectangle using the formula for length $\times$ width, and confirm the result using tiling or partitioning into unit squares.

Statistics and Probability

	Standard
Use random sampling to draw inferences about a population.	
NC.7.SP.1	Answer a question related to the collected data from an experiment, given model of data, or from data collected by the student.
Draw informal comparative inferences about two populations.	
NC.7.SP.3	Compare two sets of data within a single data display such as a picture graph, line plot, or bar graph.
Investigate chance processes and develop, use, and evaluate probability models.	
NC.7.SP.5	Describe the probability of events occurring as possible or impossible.

Extended Content Standards
Eighth Grade

Standards for Mathematical Practice

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

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The Number System
Standard
Know that there are numbers that are not rational, and approximate them by rational numbers.

NC.8.NS.1	Subtract fractions with like denominators (halves, thirds, fourths, and tenths) with minuends less than or equal to one.
NC.8.NS.2	a. Express a fraction with a denominator of 100 as a decimal. b. Compare decimal quantities using less than ($<$), greater than ($>$), or equal to ($=$), in real-world examples to the hundredths place.

Expressions and Equations

Standard	
Work with radicals and integer exponents.	
NC.8.EE.1	Identify the meaning of an exponent (limited to single digits and exponents of 2).
NC.8.EE.3	Compose and decompose whole numbers up to 999.
NC.8.EE.5	Given a table or graph with identified points, determine a ratio that describes the relationship between quantities.
Understand the connections between proportional relationships, lines, and linear equations.	
Analyze and solve linear equations and inequalities and pairs of simultaneous linear equations.	
NC.8.EE.7	Solve simple algebraic equations with one variable using addition and subtraction.

Functions

Standard	
Define, evaluate, and compare functions.	
NC.8.F.2	Given a linear function table containing at least 2 complete ordered pairs, identify a missing number that completes another ordered pair (limited to linear functions).
Use functions to model relationships between quantities.	
NC.8.F.4	Determine the values or rule of a function using a graph or a table.

	Describe how a graph represents a relationship between two quantities as increasing or decreasing
NC.8.F.5	

Geometry

Standard

Understand congruence and similarity using physical models, transparencies, or geometry software.

NC.8.G.2	Identify congruent shapes after transformation (translation, rotation, and reflection).
NC.8.G.4	Identify similar shapes after dilation (resizing).
NC.8.G.5	Compare any angle to a right angle, and describe the angle as greater than, less than, or congruent to a right angle.

Understand and apply the Pythagorean Theorem.

Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

NC.8.G.9	Use the formula for volume to solve real-world and mathematical problems (limited to volume of rectangular prisms).

Statistics and Probability
Standard
Investigate patterns of association in bivariate data.
NC.8.SP.1	Construct a graph or table from given categorical data and compare data categorized in the graph or table.