

**Trinity Area School District
Template for Curriculum Mapping**

Course: Common Core Math 6 Grade: 6	Overview of Course: (Briefly describe what students should understand and be able to do as a result of engaging in this course: <ul style="list-style-type: none"> • Students will write and speak with an understanding of grade appropriate grammar and communication skills. • Students will complete multiple formal, multi-paragraph essays utilizing the steps of the writing process.
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Overarching Big Ideas, Enduring Understandings, and Essential Questions

(These “spiral” throughout the entire curriculum.)

Big Idea (A Big Idea is typically a noun and always transferable within and among content areas.)	Standard(s) Addressed (What Common Core Standard(s) and/or PA Standard(s) addresses this Big Idea?)	Enduring Understanding(s) (SAS refers to Enduring Understandings as “Big Ideas.” EUs are the understanding we want students to carry with them after they graduate. EUs will link Big Ideas together. Consider having only one or two EUs per Big Idea.)	Essential Question(s) (Essential Questions are broad and open ended. Sometimes, EQs can be debated. A student’s answer to an EQ will help teachers determine if he/she truly understands. Consider having only one or two EQs per Enduring Understanding.)
Ratios and Proportional Relationships	CC.2.1.6.D.1 Understand ratio concepts and use ratio reasoning to solve problems. CC.2.1.7.D.1 Analyze proportional relationships and use them to model and solve real-world and mathematical	All ratios can be written in the form $(\frac{a}{b})$. Proportional relationships can be determined by using factor puzzles.	What is the best way to represent a ratio? How are proportions used in everyday life?
The Number System	CC.2.1.6.E.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions. CC.2.1.6.E.2 Identify and choose appropriate processes to compute fluently with multi-digit numbers. CC.2.1.6.E.3	Fractions and decimals can be used to represent something greater than or less than a whole. Rational numbers can be computed through addition, subtraction, multiplication, and division. Common factors and multiples can be used to solve addition and subtraction problems with fractions.	What operation (multiplication or division) would be needed to solve a fraction or decimal word problem? What is the difference between a factor and a multiple?

	<p>Develop and/or apply number theory concepts to find common factors and multiples.</p> <p>CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers.</p> <p>CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers.</p>		
Expressions and Equations	<p>CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions.</p> <p>CC.2.2.7.B.1 Apply properties of operations to generate equivalent expressions.</p> <p>CC.2.2.6.B.2 Understand the process of solving a one-variable equation or inequality and apply it to real-world and mathematical problems.</p> <p>CC.2.2.6.B.3 Represent and analyze quantitative relationships between dependent and independent variables.</p>	<p>Mathematical terms (sum, term, product, factor, quotient, coefficient, and quantity) can be used to identify parts of an expression.</p> <p>Algebraic expressions can be represented in the form of inequalities.</p> <p>Equations or inequalities with dependent and independent variables can be graphed to show their relationship.</p>	<p>How can you transform a mathematical sentence into an equation to find an unknown?</p> <p>How can you use an inequality or equation to solve real-world mathematical problems?</p> <p>What is the difference between a dependent and independent variable?</p>
Geometry	<p>CC.2.3.6.A.1 Apply appropriate tools to solve real-world and mathematical problems involving area, surface area, and volume.</p> <p>CC.2.3.7.A.1</p>	<p>Specific polygons all have unique names and characteristics to calculate measurements.</p> <p>Linear, square, and cubic units must be used appropriately when finding perimeter, area, and volume.</p>	<p>How do you determine the appropriate measurement and unit for each unique figure?</p>

	Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.		
Statistics and Probability	CC.2.4.6.B.1 Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions.	The probability of an event tells us how likely it is that an event will happen. A set of data can be described by its center, spread, or overall shape.	How can you determine probability of an event with and without replacement? How can you display numerical data as measures of central tendency?

Big Ideas, Enduring Understandings, and Essential Questions Per Unit of Study
(These do NOT “spiral” throughout the entire curriculum, but are specific to each unit.)

Month of Instruction <i>(In what month(s) will you teach this unit?)</i>	Title of Unit	Big Idea(s) <i>(A Big Idea is typically a noun and always transferable within and among content areas.)</i>	Standard(s) Addressed <i>(What Common Core Standard(s) and/or PA Standard(s) addresses this Big Idea?)</i>	Enduring Understanding(s) <i>(SAS refers to Enduring Understandings and “Big Ideas.” EUs are the understanding we want students to carry with them after they graduate. EUs will link Big Ideas together. Consider having only one or two EUs per Big Idea.)</i>	Essential Question(s) <i>(Essential Questions are broad and open ended. Sometimes, EQs can be debated. A student’s answer to an EQ will help teachers determine if he/she truly understands. Consider having only one or two EQs per Enduring Understanding.)</i>	Common Assessment(s) <i>(What assessments will all the teachers of this unit use to determine if students have answered the Essential Questions?)</i>	Common Resource(s) Used <i>(What resources will all teachers of this unit use to help students understand the Big Ideas?)</i>
Weeks 1-4	Rates, Ratios, and Proportions	Ratios and Proportional Relationships The Number System	CC.2.1.6.D.1 Understand ratio concepts and use ratio reasoning to solve problems. CC.2.1.7.D.1 Analyze proportional relationships and use them to model and solve real-world and mathematical problems. CC.2.1.6.E.2 Identify and choose appropriate processes to compute fluently with multi-digit numbers. CC.2.1.6.E.3 Develop and/or apply number theory concepts to find common factors and multiples. CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers. CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers.	Rate and ratio situations are connected to whole number multiplication and division. All ratios can be written in the form $\frac{a}{b}$. Proportional relationships can be used to solve multistep ratio problems.	How are factor puzzles related to the multiplication table? How do you identify a rate situation? How are proportions related to ratio tables? What is the best way to represent a ratio? How are proportions used in everyday life? What operation (multiplication or division) would be needed to solve a fraction or decimal word problem? What is the difference between a factor and a multiple?	Quick Quizzes Unit Test Performance Assessment Task Collins Writing	Bellwork (remediation of previously learned skills) Student Activity Book Homework and Remembering Book Collins Writing

Weeks 5-7	Area of Polygons	Expressions and Equations Geometry	<p>CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions.</p> <p>CC.2.2.7.B.1 Apply properties of operations to generate equivalent expressions.</p> <p>CC.2.2.6.B.2 Understand the process of solving a one-variable equation or inequality and apply it to real-world and mathematical problems.</p> <p>CC.2.2.6.B.3 Represent and analyze quantitative relationships between dependent and independent variables.</p> <p>CC.2.3.6.A.1 Apply appropriate tools to solve real-world and mathematical problems involving area, surface area, and volume.</p> <p>CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.</p>	<p>Real-world problems involving area and perimeter can be solved using the appropriate corresponding formula(s).</p> <p>Coordinates can be used to determine the measurements of polygons on a coordinate plane.</p> <p>Mathematical terms (sum, term, product, factor, quotient, coefficient, and quantity) can be used to identify parts of an expression.</p> <p>Specific polygons all have unique names and characteristics to calculate measurements.</p> <p>Linear, square, and cubic units must be used appropriately when finding perimeter, area, and volume.</p>	<p>How are the formulas for polygons derived from the formula for triangles?</p> <p>How can you find the measurement of an unknown side when given a set of ordered pairs?</p> <p>How can you express an equation or inequality using mathematical terms?</p> <p>How can you use an inequality or equation to solve real-world mathematical problems?</p> <p>How do you determine the appropriate measurement and unit for each unique figure?</p>	<p>Quick Quizzes</p> <p>Unit Test</p> <p>Performance Assessment Task</p> <p>Collins Writing</p> <p>Quarterly Assessment</p>	<p>Bellwork (remediation of previously learned skills)</p> <p>Student Activity Book</p> <p>Homework and Remembering Book</p> <p>Collins Writing</p>
Weeks 8-13	Operations with Whole Numbers, Fractions, and Decimals	The Number System	<p>CC.2.1.6.E.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions.</p> <p>CC.2.1.6.E.2 Identify and choose appropriate processes to compute fluently with multi-digit numbers.</p> <p>CC.2.1.6.E.3</p>	<p>When dividing fractions, multiply by the reciprocal of the second term.</p> <p>Fractions and decimals can be used to represent something greater</p>	<p>How can you determine if your solution is in simplest form?</p> <p>How is the quotient or product affected by place value?</p>	<p>Quick Quizzes</p> <p>Unit Test</p> <p>Performance Assessment Task</p> <p>Collins Writing</p>	<p>Bellwork (remediation of previously learned skills)</p> <p>Student Activity Book</p>

			<p>Develop and/or apply number theory concepts to find common factors and multiples.</p> <p>CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers.</p> <p>CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers.</p>	<p>than or less than a whole.</p> <p>Rational numbers can be computed through addition, subtraction, multiplication, and division.</p> <p>Common factors and multiples can be used to solve addition and subtraction problems with fractions.</p>	<p>How is the value affected when multiplying/dividing by a whole number/fraction?</p> <p>What operation (multiplication or division) would be needed to solve a fraction or decimal word problem?</p> <p>What is the difference between a factor and a multiple?</p>		<p>Homework and Remembering Book</p> <p>Collins Writing</p>
Weeks 14-15	Surface Area of Prisms and Pyramids	Expressions and Equations Geometry	<p>CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions.</p> <p>CC.2.3.6.A.1 Apply appropriate tools to solve real-world and mathematical problems involving area, surface area, and volume.</p> <p>CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.</p>	<p>Prisms and pyramids can be represented by using nets made from rectangles and triangles.</p> <p>There are various characteristics that can be used to classify prisms as rectangular or nonrectangular.</p> <p>Linear, square, and cubic units must be used appropriately when finding perimeter, area, and volume.</p> <p>Mathematical terms (sum, term, product, factor, quotient, coefficient, and quantity) can be used to identify parts of an expression.</p>	<p>What is the relationship between two- and three-dimensional figures?</p> <p>What formulas are necessary when calculating the surface area of prisms and pyramids?</p> <p>How can you express an equation or inequality using mathematical terms?</p> <p>How can you use an inequality or equation to solve real-world mathematical problems?</p> <p>How do you determine the appropriate measurement and unit for each unique figure?</p>	<p>Quick Quizzes</p> <p>Unit Test</p> <p>Performance Assessment Task</p> <p>Collins Writing</p>	<p>Bellwork (remediation of previously learned skills)</p> <p>Student Activity Book</p> <p>Homework and Remembering Book</p> <p>Collins Writing</p>

<p>Weeks 16-21</p>	<p>Expressions and Equations</p>	<p>The Number System</p> <p>Expressions and Equations</p> <p>Geometry</p>	<p>CC.2.1.6.E.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions.</p> <p>CC.2.1.6.E.2 Identify and choose appropriate processes to compute fluently with multi-digit numbers.</p> <p>CC.2.1.6.E.3 Develop and/or apply number theory concepts to find common factors and multiples.</p> <p>CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers.</p> <p>CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers.</p> <p>CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions.</p> <p>CC.2.2.7.B.1 Apply properties of operations to generate equivalent expressions.</p> <p>CC.2.2.6.B.2 Understand the process of solving a one-variable equation or inequality and apply it to real-world and mathematical problems.</p> <p>CC.2.2.6.B.3 Represent and analyze quantitative relationships between dependent and independent variables.</p>	<p>To solve a linear equation, isolate the variable and use the inverse operation.</p> <p>Properties of operations can be applied to add, subtract, factor and expand linear expressions.</p> <p>The order of operations must be followed when evaluating equations.</p> <p>Rational numbers can be computed through addition, subtraction, multiplication, and division.</p> <p>Mathematical terms (sum, term, product, factor, quotient, coefficient, and quantity) can be used to identify parts of an expression.</p> <p>Algebraic expressions can be represented in the form of inequalities.</p> <p>Equations or inequalities with dependent and independent variables can be</p>	<p>How does the order of operations affect the solution?</p> <p>How can you transform a mathematical sentence into an equation to find an unknown?</p> <p>How can terms and operations in an expression or equation be arranged to produce a given result?</p> <p>What operation (multiplication or division) would be needed to solve a fraction or decimal word problem?</p> <p>How can you use an inequality or equation to solve real-world mathematical problems?</p> <p>What is the difference between a dependent and independent variable?</p>	<p>Quick Quizzes</p> <p>Unit Test</p> <p>Performance Assessment Task</p> <p>Collins Writing</p> <p>Quarterly Assessment</p>	<p>Bellwork (remediation of previously learned skills)</p> <p>Student Activity Book</p> <p>Homework and Remembering Book</p> <p>Collins Writing</p>
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				graphed to show their relationship. Linear, square, and cubic units must be used appropriately when finding perimeter, area, and volume.			
Weeks 22-23	Volume of a Rectangular Prism	Expressions and Equations Geometry	CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions. CC.2.2.7.B.1 Apply properties of operations to generate equivalent expressions. CC.2.2.6.B.2 Understand the process of solving a one-variable equation or inequality and apply it to real-world and mathematical problems. CC.2.2.6.B.3 Represent and analyze quantitative relationships between dependent and independent variables.	Specific polygons all have unique names and characteristics to calculate measurements. Volume is the number of unit cubes that fit inside of a polygon. A 3 dimensional figure has 3 dimensions of length, width, and height. Linear, square, and cubic units must be used appropriately when finding perimeter, area, and volume. A rectangular prism can have a volume that is less than one cubic unit.	How do you determine the appropriate measurement and unit for each unique figure? What formulas are necessary when calculating the volume of a rectangular prism? How can you express an equation or inequality using mathematical terms? How can you use an inequality or equation to solve real-world mathematical problems?	Quick Quizzes Unit Test Performance Assessment Task Collins Writing	Bellwork (remediation of previously learned skills) Student Activity Book Homework and Remembering Book Collins Writing
Weeks 24-27	Ratios and Rates with Fractions, Decimals, and Percents	Ratios and Proportional Relationships Expressions and Equations	CC.2.1.6.D.1 Understand ratio concepts and use ratio reasoning to solve problems. CC.2.1.7.D.1	Ratios can be written to compare a part to a part, a part to a whole, or the whole to a part.	What is the best way to represent a ratio? How are proportions used in everyday life?	Quick Quizzes Unit Test Performance Assessment Task	Bellwork (remediation of previously learned skills)

		<p>Geometry</p> <p>Analyze proportional relationships and use them to model and solve real-world and mathematical problems.</p> <p>CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions.</p> <p>CC.2.2.7.B.1 Apply properties of operations to generate equivalent expressions.</p> <p>CC.2.2.6.B.2 Understand the process of solving a one-variable equation or inequality and apply it to real-world and mathematical problems.</p> <p>CC.2.2.6.B.3 Represent and analyze quantitative relationships between dependent and independent variables.</p>	<p>All ratios can be written in the form $\left(\frac{a}{b}\right)$.</p> <p>Proportional relationships can be determined by using factor puzzles.</p> <p>Proportions can be solved using cross multiplication.</p> <p>Rates compare two quantities that have different units of measure.</p> <p>Unit rates and unit prices are helpful for making comparisons.</p> <p>Percent means "out of 100" or "for each 100."</p> <p>The symbol for percent is %.</p>	<p>Why do we have different units of measure?</p> <p>How do we find better buys in real life?</p>	<p>Collins Writing</p> <p>Quarterly Assessment</p>	<p>Student Activity Book</p> <p>Homework and Remembering Book</p> <p>Collins Writing</p>
Weeks 28-32	Analyzing Statistics	<p>Statistics and Probability</p> <p>CC.2.4.6.B.1 Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions.</p>	<p>A set of data can be described by its center, spread, and overall shape.</p> <p>A measure of center, such as mean and median, summarizes a set of data values with a single number.</p> <p>A measure of variation, such as</p>	<p>How do you determine which measure of central tendency is appropriate to solve the problem?</p> <p>Which central tendency is most appropriate in comparing the variability of two different populations?</p>	<p>Quick Quizzes</p> <p>Unit Test</p> <p>Performance Assessment Task</p> <p>Collins Writing</p>	<p>Bellwork (remediation of previously learned skills)</p> <p>Student Activity Book</p> <p>Homework and Remembering Book</p>

				range, interquartile range, and mean absolute deviation, summarizes a set of data values with a single number.			Collins Writing
Weeks 33-36	Rational Numbers and the Coordinate Plane	The Number System	<p>CC.2.1.6.E.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions.</p> <p>CC.2.1.6.E.2 Identify and choose appropriate processes to compute fluently with multi-digit numbers.</p> <p>CC.2.1.6.E.3 Develop and/or apply number theory concepts to find common factors and multiples.</p> <p>CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers.</p> <p>CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers.</p>	<p>Positive and negative numbers can describe quantities having opposite directions on a number line or opposite values.</p> <p>Points represent integers and other rational numbers on the number line and in all four quadrants of the coordinate plane.</p> <p>When two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.</p>	<p>What are real life situations that involve negative numbers?</p> <p>How do you know if your calculation results in a positive or negative integer?</p> <p>Why is absolute value positive?</p> <p>What happens if you reverse the order of the numbers in an ordered pair?</p>	<p>Quick Quizzes</p> <p>Unit Test</p> <p>Performance Assessment Task</p> <p>Collins Writing</p> <p>Quarterly Assessment</p>	<p>Bellwork (remediation of previously learned skills)</p> <p>Student Activity Book</p> <p>Homework and Remembering Book</p> <p>Collins Writing</p>

- Some teachers may need to think about the assessments and resources used in order to determine the Big Ideas, Enduring Understandings, and Essential Questions embedded in their courses. At this point in your curriculum mapping, you might want to ignore the “Common Assessments” and the “Common Resources Used” columns. However, you may use them if you wish.