Trinity Area School District
Template for Curriculum Mapping

Course: 6th / 7th Common Core Math / Pre-Algebra **Grade:** 6	**Overview of Course** The purpose of this course is to prepare students for the 8th Grade common core math standards and Algebra 1. Students will apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. Students will use variables to represent quantities and construct and solve multi-step equations and inequalities to solve problems. Students will compute unit rates, recognize and represent proportional relationships between quantities, and solve problems involving scale drawings of geometric figures. Solving multi-step ratio and percent problems, such as simple interest, tax, markups, discounts, tips, commissions, etc. will be addressed. Students will draw, construct, and describe geometrical figures and describe the relationships between them. Real life problems involving area, angle measures, surface area and volume will be addressed. Students will use random sampling to draw inferences about a population, as well as to compare two populations. Students will investigate chance as well as use probability models and compare theoretical probabilities of simple and compound events.

Big Idea(s)	Standard(s) Addressed	Enduring Understanding(s)	Essential Question(s)
Decimals/Whole Numbers.	• CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers • CC.2.1.6.E.2 Identify and choose appropriate processes to compute fluently with multi-digit numbers. • CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers. • CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions.	1. All fractions are rational numbers. You can write any fraction as a decimal by dividing the numerator by the denominator. 2. Terminating and repeating decimals are rational numbers, but decimals that do not terminate or repeat are irrational. You can use place value to write a terminating decimal as a fraction. 3. Properties for addition and multiplication often help you compute mentally more easily. 4. Most estimation techniques involve replacing numbers with ones that are close and easy to compute mentally.	1. When do we use decimals in everyday life? 2. When do we use fractions in everyday life? 3. How can you use mathematical properties to help you calculate easier?

	• CC.2.2.7.B.1 Apply properties of operations to generate equivalent expressions. • CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations		
Integers	• 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	1. On a number line, positive integers are to the right of 0, and negative integers are to the left of 0. 2. A number and its opposite are the same distance from 0 on a number line, so they have the same absolute value. Absolute values are never negative. 3. The opposite of the opposite of a number is the number itself. 4. The rules for adding subtracting, multiplying, and dividing integers can be extended to all rational numbers. 5. You can name any point on a coordinate plane by an ordered pair of numbers. 6. An ordered pair (x,y) is ordered because you always name the horizontal coordinate first	1. What are some real life situations that involve negative numbers? 2. How do we know if your calculation results in a positive or negative integer? 3. Why is absolute value positive? 4. What does it mean if your checking account has a negative balance? 5. Is -7 degrees warmer or colder than -3 degrees? 6. What happens if you reverse the order of the numbers in an ordered pair?
Fractions	• CC.2.1.6.E.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions. • CC.2.1.7.E.1 Apply and extend previous understandings of	1. Fractions can be used to represent something greater than/less than a whole. 2. Mixed numbers and improper fractions represent the same quantity. 3. Fractions can be used in real-world situations such as bakers, chefs, carpenters, etc...	1. What is a whole? 2. Explain why $2\frac{1}{2}$ is equivalent to $\frac{5}{2}$. 3. When would we divide fractions in everyday life?

	operations with fractions to operations with rational numbers. • CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations	4. Numbers that are not prime are composite. 5. The number 1 is neither prime nor composite. 6. Prime numbers have exactly 2 factors – 1 and the number itself. 7. All integers greater than 1 can be expressed as a product of prime factors.	
Expressions, Equations, & Inequalities	• 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 to real-world and mathematical problems. • CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.	1. The value of an algebraic expression varies depending on the value of the variable. 2. An algebraic expression is in simplest form when it doesn't have any like terms. 3. To solve a linear equation, get the variable alone on one side of the equation by using inverse operations. 4. Any operation you perform on one side of the equation must also be performed on the other side of the equation. (This balances the equation.) 5. Addition and subtraction are inverse operations that "undo" each other. 6. Multiplication and division are inverse operations that "undo" each other. 7. Multiplying or dividing both sides of an inequality by a positive number does not change the direction of the inequality sign, but multiplying or dividing by a negative number changes the direction of the inequality sign.	1. How can we use the distributive property to multiply a whole number times a mixed number or a decimal? 2. How do you know if you need to distribute when simplifying an expression? 2. How is the distributive property useful in everyday life?
Ratios and Proportional Relationships	• CC.2.1.6.D.1 Understand ratio concepts and use ratio reasoning to solve problems.	1. Ratios can be written to compare a part to a part, a part to a whole, or the whole to a part.	1. What is the best way to represent a ratio?

	• CC.2.1.7.D.1 Analyze proportional relationships and use them to model and solve real-world and mathematical problems.	2. Ratios can be represented in multiple ways. 3. All ratios can be written in the form $\left(\frac{a}{b}\right)$ 4. Equivalent ratios can be generated using multiplication or division, just as with equivalent fractions.	
Ratios, Rates 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 problems.	1. Rates compare two quantities that have different units of measure. 2. Unit rates and unit prices are helpful for making comparisons.	1. Why do we have different units of measure? 2. How do we find better buys in real life?
Percents	• 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.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.	1. The percent sign means out of 100. 2. The percent of change compares the amount of change to the original amount. 3. The fluctuation of prices is due to the increase or decrease percentage. 4. All fractions can be represented as percents. 5. Proportions can be solved using cross-products. 6. Proportions can be used in many real-life situations, such as cooking and finding odds. 7. Interest is money that you pay to use someone else's money, or money that you earn while someone else uses your money.	1. What are real life situations that might involve using percents? 2. How do we determine the price of items in a sale based on sales, discounts, and/or tax? 3. How could you use a proportion to triple a recipe or to cut it in half?

Units (Conversions)	• CC.2.1.7.D.1 Analyze proportional relationships and use them to model and solve real-world and mathematical problems.	1. Proportions are used to convert one unit of measurement to another. 2. There will always be a specific unit of measurement that works better than the rest for specific situations.	1. How do we relate proportions to converting in the customary system? 2. Why is it possible to have two correct answers but one answer is better than the other? 3. Why learn the metric system if we don't normally use it?
Angle Relations	• CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.	1. Supplementary angles total 180 degrees. 2. Complementary angles total 90 degrees.	1. What is the best method for determining the relationship among two angles?
Constructions	• CC.2.3.6.A.1 Apply appropriate tools to solve real-world and mathematical problems involving area, surface area, and volume. • CC.2.3.7.A.1 Visualize and represent geometric figures and describe the relationships between them.	1. Triangles can be used to construct geometric figures. 2. Specific polygons all have their own unique name. 3. A scale tells how to reduce or enlarge the dimensions of a drawing.	1. How do we use triangles to construct real world figures?
Shapes .	• CC.2.3.6.A.1 Apply appropriate tools to solve real-world and mathematical problems involving area, surface area, and volume. • CC.2.3.7.A.1 Visualize and represent geometric figures and describe the relationships between them. • CC.2.3.7.A.1 Solve real-world and mathematical problems involving	1. The units when finding area will always be squared because there are two of the same units being multiplied. 2. The units when finding volume will always be cubed because there are three of the same units being multiplied. 3. A 3 dimensional figure has 3 dimensions of length, width, and height. 4. You can use a net (a pattern that you can fold) to form a 3-dimensional figure.	1. How do we use nets to represent 3 dimensional figures? 2. Explain how volume differs from surface area? 3. What 2-dimensional figure results from slicing a cube, a cylinder, a sphere, or a pyramid? 4. Does the ocean's volume change with low tide and high tide or is there always the same amount of water there?

	angle measure, area, surface area, circumference, and volume.	5. Volume is the number of unit cubes that fit inside of a polygon. 6. Prisms are always named by their base.	5. When would you need to know the measurement of a circle or the area around it?
Central Tendency	• CC.2.4.6.B.1 Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions. • CC.2.4.7.B.2 Draw informal comparative inferences about two populations	1. All data can be calculated using a measure of central tendency. 2. The variability of two populations can be compared using their central tendencies.	1. How do you determine which measure of central tendency is appropriate to solve the problem? 2. Which central tendency is most appropriate in comparing the variability of two different populations?
Probability	• CC.2.4.7.B.3 Investigate chance processes and develop, use, and evaluate probability models.	1. The probability of an event tells us how likely it is that an event will happen. 2. All probabilities can be expressed as a ratio. 3. Most data is comprised from information based on population samples. 4. The spread of data depends on the sample. 5. The measure of center for a set of data is a single number that summarizes all of its values. 6. A measure of variation for a set of data is a single number that describes how the values vary. 7. Statistics can be used to gain information about a population by examining a sample of the population. 8. Generalizations about a population from a sample are valid only if the sample is representative of that population.	1. What is the difference between a population and a sample? 2. How would we find a good sample to conduct a survey? 3. What is an example of a statistical question? 4. What is an example of a question that is not a statistical question? 5. What is an event that has a probability of 1? Of 0? 6. As the probability of something happening, does the probability get smaller or larger?

Data Analysis and Graphs	• CC.2.4.6.B.1 Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions. • CC.2.4.7.B.1 Draw inferences about populations based on random sampling concepts	1. Data can be displayed in many forms and have different meanings depending on the format.	1. How do you determine the appropriate format to graph your data and why?

Month of Instruction	**Title of Unit**	**Big Idea(s)**	**Standard(s) Addressed**	**Enduring Understanding(s)**	**Essential Question(s)**	**Common Assessment(s)**	**Common Resource(s) Used**
Week 1-3	**Operation of Rational Numbers**	**Decimals/Whole Numbers** • Convert between fractions and decimals • Divide multi-digit numbers using the standard algorithm. • Add, subtract, multiply, and divide multi-digit decimals. • Write a terminating decimal • Write a repeating decimal .	CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers. CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to	1. All fractions are rational numbers. You can write any fraction as a decimal by dividing the numerator by the denominator. 2. Terminating and repeating decimals are rational numbers, but decimals that do not terminate or repeat are irrational. You can use place value to write a	1. When do we use decimals in everyday life? 2. When do we use fractions in everyday life? 3. How can you use mathematical properties to help you calculate easier?	**Terminology** • rational numbers • terminating decimal • repeating decimals • non-repeating decimals • non-terminating decimals • bar notation • place value	• Decimal Activity • Common Rule for all operations with decimals • Properties activity • Order of operations activity/lesson • Decimal and place value power point and group work activity • Estimation and importance in

			algebraic expressions. CC.2.1.6.E.2 Identify and choose appropriate processes to compute fluently with multi-digit numbers. CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers.	terminating decimal as a fraction. 3. Properties for addition and multiplication often help you compute mentally more easily. 4. Most estimation techniques involve replacing numbers with ones that are close and easy to compute mentally.			real-life scenarios (shopping, building, baking, etc.)
Week 4-5	**Operation of Rational Numbers**	**Integers** • Understand that positive and negative numbers are used together to describe quantities having opposite direction or values (above/below 0, etc) • Use positive and negative numbers in real world contexts, & explain the meaning of 0 in the context. • Recognize opposite signs of numbers as indicating	CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers. CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to	1. On a number line, positive integers are to the right of 0, and negative integers are to the left of 0. 2. A number and its opposite are the same distance from 0 on a number line, so they have the same absolute value. Absolute values are never negative.	1. What are some real life situations that involve negative numbers? 2. How do we know if your calculation results in a positive or negative integer? 3. Why is absolute value positive?	**Terminology** • Integers • absolute value • opposite numbers • additive inverse • divisor • quotient • dividend • quadrant I	• Integer Football Activity • Tic-Tac-Toe Board • Integer Tiles • Plotting points to create pictures assignment (Graphiti Book

		locations on opposite sides of 0. • Recognize that the opposite of the opposite is the number itself. • Understand that 0 is its own opposite. • Identify the quadrant in which a point is located by the signs of the numbers on the ordered pairs. • Locate and graph ordered pairs of integers and rational numbers on a coordinate plane. • Interpret inequality statements regarding position of 2 numbers. • Interpret and explain statements of order for rational numbers in a real world context. (-7 is warmer than -10) • Distinguish comparisons of absolute value from statements about order. (Recognize that an acct balance less than -30 represents a debt greater than 30). • Determine and define absolute value of a number. • Find distance between points on a coordinate plane that have the same x- or y-coordinate.	algebraic expressions. 6.CC.2.1.6.E.3 Develop and/or apply number theory concepts to find common factors and multiples. CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers.	3. The opposite of the opposite of a number is the number itself. 4. The rules for adding subtracting, multiplying, and dividing integers can be extended to all rational numbers. 5. You can name any point on a coordinate plane by an ordered pair of numbers. 6. An ordered pair (x,y) is ordered because you always name the horizontal coordinate first	4. What does it mean if your checking account has a negative balance? 5. Is -7 degrees warmer or colder than -3 degrees? 6. What happens if you reverse the order of the numbers in an ordered pair?	• quadrant II • quadrant III • quadrant IV • x axis • y axis • positive • negative • origin	

		• Describe situations in which opposite quantities combine to make 0. • Show that a number and its opposite combine to = 0. • Add, subtract, multiply, and divide integers. • Understand that integers can be divided as long as the divisor is not zero. • Compare and order integers					
Week 6 - 9	**Operation of Rational Numbers**	**Fractions** • Compute quotients of fractions. • Interpret quotients of fractions (Create a story for 2/3 divided by 3/4, How any ¾ cup servings are in 2/3 cup of yogurt?) • Use the order of operations to evaluate expressions, including formulas, for a specific value of the variable. • Add, subtract, multiply, and divide rational numbers to solve real world problems.	CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers. CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to algebraic expressions. CC.2.1.6.E.1 Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	1. Fractions can be used to represent something greater than/less than a whole. 2. Mixed numbers and improper fractions represent the same quantity. 3. Fractions can be used in real-world situations such as bakers, chefs, carpenters, etc... 4. Numbers that are not prime are composite. 5. The number 1 is neither prime nor composite. 6. Prime numbers have exactly 2 factors – 1 and the number itself.	1. What is a whole? 2. Explain why $2\frac{1}{2}$ is equivalent to $\frac{5}{2}$. 3. When would we divide fractions in everyday life?	**Terminology** • GCF • LCM • LCD • prime factorization • prime number • composite number • like denominator • unlike denominator • mixed number • improper fractions • reciprocals • fractions • mixed numbers improper fractions	• Common denominator activity (group or individual) • Unlike denominator activity (group or individual) • 25 word summary • Pie sectional charts •

			CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers.	7. All integers greater than 1 can be expressed as a product of prime factors.			
Weeks 10 - 14	**Expressions, Equations, & Inequalities**	**Expressions, Equations, & Inequalities** • Evaluate and write algebraic expressions including expressions with whole number exponents. • Evaluate algebraic expressions with rational coefficients. • Write algebraic expressions for word phrases. • Identify parts of an expression using mathematical terms (sum, difference, factor, coefficient, etc.) • Use the order of operations to evaluate expressions, including formulas, for a specific value of the variable. • Use the distributive property to express the sum of two whole numbers as a multiple of a sum. (36 + 8 = 4(9+2))	CC.2.2.6.B.2 Understand the process of solving a one-variable equation or inequality and apply to real-world and mathematical problems. CC.2.1.6.E.4 Apply and extend previous understandings of numbers to the system of rational numbers. CC.2.2.6.B.1 Apply and extend previous understandings of arithmetic to	1. The value of an algebraic expression varies depending on the value of the variable. 2. An algebraic expression is in simplest form when it doesn't have any like terms. 3. To solve a linear equation, get the variable alone on one side of the equation by using inverse operations. 4. Any operation you perform on one side of the equation must also be performed on the other side of the equation. (This balances the equation.) 5. Addition and subtraction are inverse	1. How can we use the distributive property to multiply a whole number times a mixed number or a decimal? 2. How do you know if you need to distribute when simplifying an expression? 2. How is the distributive property useful in everyday life?	• variable • open sentence • algebraic expression • numerical expression • equation • inverse operations • solution • evaluate • factor • like terms • common factor • coefficient	• Isolating variables assignments/activities • Word problem assignments to seek out the important information from a word problem

		• Apply the distributive property to create equivalent expressions. • Identify equivalent expressions ($y + y + y = 3y$ regardless of the value of y). • Rewrite expressions in different forms. (Ex. $x + .05x = 1.05x$ means that increase by 5% is same as multiply by 1.05). • Use substitution to determine whether a given number is a solution to an equation or inequality. • Use variables to represent unknown numbers. • Solve real-world problems by writing and solving equations of the form $x + p = q$ and $px = q$where p, x, q are nonnegative. • Solve one-step equations • Solve two step equations • Solve equations with variables on both sides of the equals sign • Write an inequality to represent a constraint (i.e. The width of a rectangle is >0) • Use 2 variables to represent dependent and independent and write an equation to represent the dependent	algebraic expressions. CC.2.1.7.E.1 Apply and extend previous understandings of operations with fractions to operations with rational numbers. CC.2.2.7.B.1 Apply properties of operations to generate equivalent expressions. CC.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.	operations that "undo" each other. 6. Multiplication and division are inverse operations that "undo" each other. 7. Multiplying or dividing both sides of an inequality by a positive number does not change the direction of the inequality sign, but multiplying or dividing by a negative number changes the direction of the inequality sign.			

		variable in terms of the independent variable. ($d = 65t$). • Solve word problems by writing and solving equations of the form $px + q = r$ and $p(x + q) = r$ • Solve word problems leading to inequalities of the form $px + q > r$ and $px + q < r$ and interpret the solutions.					
Weeks 15 - 16	**Ratios and Proportional Relationships**	**Ratios** • Describe a ratio relationship between 2 quantities. (The ratio of boys to girls is 3:1 means that for every 3 boys there is 1 girl). • Understand the concept of unit rate. (3 cups of flour to 4 cups of sugar means there is ¾ cup flour for each cup of sugar.) • Determine whether or not 2 quantities are in a proportional relationship. (testing in a table or graphing into a straight line through origin) • Make tables of equivalent ratios and find missing values in the ratios.	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.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting	1. Ratios can be written to compare a part to a part, a part to a whole, or the whole to a part. 2. Ratios can be represented in multiple ways. 3. All ratios can be written in the form $\left(\frac{a}{b}\right)$ 4. Equivalent ratios can be generated using multiplication or division, just as with equivalent fractions.	1. What is the best way to represent a ratio?	**Terminology** • ratios • terms • equivalent ratios • rates	• Pie Sections (Equivalency) • Ticket out the door" activity involving the 3 different ways to write a ratio.

			numerical, algebraic, and/or graphical representations.				
Week 17 - 18	**Ratios and Proportional Relationships**	**Rates** • Solve unit rate problems involving speed. • Solve unit rate problems involving unit pricing. • Solve unit rate problems associated with ratios of fractions. • Find a percent of a quantity as a rate per 100 (e.g. 30% of a quantity means 30/100 times the quantity.) • Find a unit cost • Identify the constant of proportionality via a table on a direct variation graph through the origin • Write equations to show proportional relationships. (y=kx) • Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.	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.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.	1. Rates compare two quantities that have different units of measure. 2. Unit rates and unit prices are helpful for making comparisons.	1. Why do we have different units of measure? 2. How do we find better buys in real life?	**Terminology** • rate • unit rate • constant of proportionality • direct variation	• Better Buy Activity • Shark Tank Performance Task (updated yearly)
Week 19 - 20	**Proportions**	**Proportions and Percents** • Solve using cross products	CC.2.1.6.D.1 Understand ratio concepts and use	1. The percent sign means out of 100.	1. What are real life situations that might involve using percents?	**Terminology** • proportion	• Students find the percentage (to the nearest tenth)

		• Determine whether two fractions are proportional • Find a whole given a part and a percent. • Find sales tax, tip, commission, and percent of error • Find simple interest • Find markup and discount • Performance Task "Shark Tank" for end of the unit group project	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.2.2.7.B.3 Model and solve real-world and mathematical problems by using and connecting numerical, algebraic, and/or graphical representations.	2. The percent of change compares the amount of change to the original amount. 3. The fluctuation of prices is due to the increase or decrease percentage. 4. All fractions can be represented as percents. 5. Proportions can be solved using cross-products. 6. Proportions can be used in many real-life situations, such as cooking and finding odds. 7. Interest is money that you pay to use someone else's money, or money that you earn while someone else uses your money.	2. How do we determine the price of items in a sale based on sales, discounts, and/or tax? 3. How could you use a proportion to triple a recipe or to cut it in half?	• cross-products • Interest • percent increase/mark up • percent decrease/ markdown • principle • simple interest • gratuity • tax • percent error • fees	from a previous test score. • Menus • Coupons/Discount • Personal Purchases • Savings account statements (Note to Teacher: Teach fractions to percent via proportions AND long division.)
Week 21	**Customary & Metric Systems of Measurement**	**Units (Conversions)** • Convert between units of length, mass, and volume in the customary system. • Convert between units of length, mass, and volume in the metric system.	CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area,	1. Proportions are used to convert one unit of measurement to another. 2. There will always be a specific unit of measurement that works	1. How do we relate proportions to converting in the customary system? 2. Why is it possible to have two correct answers	**Terminology** • convert • customary system • length • weight	• Measurement tools (volume, length, mass) • Metric System in the U.S.? When? Where?

			surface area, circumference, and volume.	better than the rest for specific situations.	but one answer is better than the other? 3. Why learn the metric system if we don't normally use it?	• capacity • metric system • meter • mass • gram • capacity • liter	
Week 22	**Geometry**	**Angle Relations** • Use facts about supplementary, complementary, vertical, and adjacent angles to write and solve simple equations for an unknown angle in a figure.	CC.2.3.6.A.1 Apply appropriate tools to solve real-world and mathematical problems involving area, surface area, and volume. CC.2.3.7.A.2 Visualize and represent geometric figures and describe the relationships between them. CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.	1. Supplementary angles total 180 degrees. 2. Complementary angles total 90 degrees.	1. What is the best method for determining the relationship among two angles?	**Terminology** • supplementary • complementary • adjacent • vertical	

Week 23 - 25	**Geometry**	**Constructions** • Draw triangles from three measures of angles or sides, if possible • Draw polygons in a coordinate plane given the coordinates of its vertices. • Find the length of segments in the coordinate plane given points with the same x or y coordinates. • Compute actual lengths and areas from a scale drawing. • Reproduce a scale drawing at a different scale.	CC.2.3.6.A.1 Apply appropriate tools to solve real-world and mathematical problems involving area, surface area, and volume. CC.2.3.7.A.2 Visualize and represent geometric figures and describe the relationships between them. CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.	1. Triangles can be used to construct geometric figures. 2. Specific polygons all have their own unique name. 3. A scale tells how to reduce or enlarge the dimensions of a drawing.	1. How do we use triangles to construct real world figures?	**Terminology** • polygon • quadrilateral • length • scale drawing	• Protractor • Draw, cut, and paste polygons assignment (3 through 10 sided figures) • Page 245 in Grade 6 common Core text book.
Week 26 - 27	**2 and 3 Dimensional Figures**	**Shapes** • Find area of right triangles, special quadrilaterals, and polygons by composing	CC.2.3.6.A.1 Apply appropriate tools to solve real-	1. The units when finding area will always be squared because there	1. How do we use nets to represent 3 dimensional figures?	**Terminology** • radius • diameter	• 3D Figures • Formula Sheet • Area worksheets

		them into rectangles or decomposing into triangles and other shapes. Apply to real life situations. • Find the volume of right rectangular prisms with fractional edge lengths by packing it with unit cubes and by using the formula $V = lwh$. • Find area and circumference of a circle by using formulas. • Complete Performance Task "The Masters" after lessons on Area of Composite figures. • Find area, surface area and volume of 2 and 3-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. • Describe the two-dimensional figures that result from slicing 3-dimensional figures. • Name and draw 3D figures including prisms, pyramids, and cubes • Represent 3-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures.	world and mathematical problems involving area, surface area, and volume. CC.2.3.7.A.2 Visualize and represent geometric figures and describe the relationships between them. CC.2.3.7.A.1 Solve real-world and mathematical problems involving angle measure, area, surface area, circumference, and volume.	are two of the same units being multiplied. 2. The units when finding volume will always be cubed because there are three of the same units being multiplied. 3. A 3 dimensional figure has 3 dimensions of length, width, and height. 4. You can use a net (a pattern that you can fold) to form a 3-dimensional figure. 5. Volume is the number of unit cubes that fit inside of a polygon. 6. Prisms are always named by their base.	2. Explain how volume differs from surface area? 3. What 2-dimensional figure results from slicing a cube, a cylinder, a sphere, or a pyramid? 4. Does the ocean's volume change with low tide and high tide or is there always the same amount of water there? 5. When would you need to know the measurement of a circle or the area around it?	• pi • circumference • 3 dimensional figures • Cross section • pyramid • prism • cylinder • sphere • base • faces • edge • vertices • volume • surface area • cubic units • square units • length • width • height	• Promethean board "game" for area. • Real life examples with filling objects up with water (allow students to find volume) • If their volume is incorrect, water will overflow the container (have towels for spillage)

Week 28-29	**Central Tendency**	**Central Tendency** • Find the three measures central tendency (mean, median, and mode). • Find interquartile range. • Find mean absolute deviation. • Determine which central tendency best represents the data	CC.2.4.6.B.1 Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions. CC.2.4.7.B.1 Draw inferences about populations based on random sampling concepts. CC.2.4.7.B.2 Draw informal comparative inferences about two populations. CC.2.4.7.B.3 Investigate chance processes and develop, use, and evaluate probability models.	1. All data can be calculated using a measure of central tendency. 2. The variability of two populations can be compared using their central tendencies.	1. How do you determine which measure of central tendency is appropriate to solve the problem? 2. Which central tendency is most appropriate in comparing the variability of two different populations?	**Terminology** • mean • median • mode • range • interquartile range • mean absolute deviation • outlier	• Mom/Dad Example
Week 30 - 34	**Probability / Statistics**	**Probability** • Recognize what a statistical question is and is not. (Statistical questions will have variability).	CC.2.4.6.B.1 Demonstrate an understanding of statistical variability by displaying,	1. The probability of an event tells us how likely it is that an event will happen.	1. What is the difference between a population and a sample?	**Terminology** • survey • data • population • sample	• Student Survey • **“**Casino in the classroom” activity

		• Describe a set of data by its center, its spread, and its statistical shape. • Understand the difference between a measure of center and a measure of variation. • Determine whether or not a sample is valid. • Identify a random sample. • Use data from a random sample to draw inferences about a population. (Estimate the mean word length in a book by randomly sampling words from the book.) • Generate multiple samples to gauge variation in predictions (Gauge how far off an estimate might be.) • Compare measures of center for 2 data sets. (The mean size of the football team is 5 cm higher than the mean size of the soccer team.) • Find experimental probability. • Make predictions based on experimental probability.	analyzing, and summarizing distributions. CC.2.4.7.B.1 Draw inferences about populations based on random sampling concepts. CC.2.4.7.B.2 Draw informal comparative inferences about two populations. CC.2.4.7.B.3 Investigate chance processes and develop, use, and evaluate probability models.	2. All probabilities can be expressed as a ratio. 3. Most data is comprised from information based on population samples. 4. The spread of data depends on the sample. 5. The measure of center for a set of data is a single number that summarizes all of its values. 6. A measure of variation for a set of data is a single number that describes how the values vary. 7. Statistics can be used to gain information about a population by examining a sample of the population. 8. Generalizations about a population from a sample are valid only if the sample is representative of that population.	2. How would we find a good sample to conduct a survey? 3. What is an example of a statistical question? 4. What is an example of a question that is not a statistical question? 5. What is an event that has a probability of 1? Of 0? 6. As the probability of something happening, does the probability get smaller or larger?	• sample space • statistic • compound events • counting principle • event • probability of an event • experimental probability • complement of an event • independent event • dependent events • interquartile range	

		• Find sample space by making lists, tables, and tree diagrams. • Find probability of compound events: both dependent and independent • Design and use a simulation to generate frequencies for compound events. (If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?)					
Week 35	**Graphing**	**Data Analysis and Graphs** • Display data on dot plots, histograms, and box plots.	CC.2.4.6.B.1 Demonstrate an understanding of statistical variability by displaying, analyzing, and summarizing distributions. CC.2.4.7.B.1 Draw inferences about populations based on random sampling concepts. CC.2.4.7.B.2 Draw informal comparative	1. Data can be displayed in many forms and have different meanings depending on the format.	1. How do you determine the appropriate format to graph your data and why?	**Terminology** • histogram • box and whisker plot • scatter plot	• Graphing survey results

			inferences about two populations. CC.2.4.7.B.3 Investigate chance processes and develop, use, and evaluate probability models.				