Math Curriculum Unit
Gasconade County R-2 School District

Standard Highlights Key	
Highlight	**Meaning**
Red	**We'll Fix (Essential to know, make sure all students understand)**
Yellow	**I'll Fix (Important to know, address in class and/or RTI)**
Green	**Drip (Something that repeated exposure will fix)**

Grade Level: **Subject:**

Month	Mathematics Missouri Learning Standards	Key Mathematics and Academic Vocabulary	MathLinks to New MLS	Essential Questions
August	**7.NS.A.1a** **7.NS.A.1b** **7.NS.A.1c** **7.NS.A.1f** **7.NS.A.1d** **7.NS.A.1e**	**Absolute Value** a number's distance from 0 on the number line. **Additive Inverses** two numbers whose sum equal 0. **Integers** whole numbers and their opposites.	Item Specification Reports K-5 Missouri Learning Standards 6-12 Missouri Learning Standards K-6 Math Glossary 7-12 Math Glossary Missouri EOC Math Reference Sheet End of Course Blueprints MAP Grade Level	**I can** apply and extend previous understandings of numbers to add and subtract rational numbers. **I can** add and subtract rational numbers. **I can** represent addition and subtraction on a horizontal or vertical number line. **I can** describe situations and show that a number and its opposite have a sum of 0 (additive inverses) I can interpret sums and differences of rational numbers. **I can** understand subtraction of rational numbers as adding the additive inverse. **I can** determine the distance between two rational numbers on the number line is the absolute value of their distance.

			Blueprints	
September	**7.NS.A.1a** **7.NS.A.1b** **7.NS.A.2a** **7.NS.A.2d** **7.NS.A.2e** **7.NS.A.2c** **7.NS.A.2b** **7.NS.A.2f**	**Rational Number** a number that can be expressed as a quotient of two integers. **Terminating Decimal** decimals that end and whose only repeating digit is 0. **Repeating Decimal** decimals that never end and repeat the same digits over and over.	Item Specification Reports K-5 Missouri Learning Standards 6-12 Missouri Learning Standards K-6 Math Glossary 7-12 Math Glossary Missouri EOC Math Reference Sheet End of Course Blueprints MAP Grade Level Blueprints	**I can** apply and extend previous understandings of numbers to add and subtract rational numbers. **I can** add and subtract rational numbers. **I can** represent addition and subtraction on a horizontal or vertical number line. **I can** apply and extend previous understandings of numbers to multiply and divide rational numbers. **I can** multiply and divide rational numbers. **I can** convert a rational number to a decimal. **I can** understand that all rational numbers can be written as fractions or decimal numbers that terminate or repeat. **I can** understand that every quotient of integers (with non-zero divisor) is a rational number. **I can** determine that a number and its reciprocal have a product of 1 (multiplicative inverse). **I can** interpret products and quotients of rational numbers by describing real-world contexts.
October	**7.NS.A.1a** **7.NS.A.1b**	**Approximations** numbers that are not exact but are close enough to be used when solving	Item Specification Reports K-5 Missouri Learning Standards	**I can** apply and extend previous understandings of numbers to add and subtract rational numbers. **I can** add and subtract rational numbers.

	7.NS.A.1f **7.NS.A.2a** **7.NS.A.2f** **7.NS.A.3** **7.RP.A.1** **7.RP.A.2a** **7.RP.A.2b** **7.RP.A.2c**	certain problems. **Unit Rate** a rate in which the first quantity is compared to 1 unit of the second quantity. **Complex Fraction** a fraction where either the numerator is a fraction, the denominator is a fraction, or both the numerator and the denominator are fractions. **Proportional Relationship** the relationship among a group of ratios that are equivalent. **Constant of Proportionality** what the unit rate is called in a proportional relationship.	6-12 Missouri Learning Standards K-6 Math Glossary 7-12 Math Glossary Missouri EOC Math Reference Sheet End of Course Blueprints MAP Grade Level Blueprints	**I can** represent addition and subtraction on a horizontal or vertical number line. **I can** interpret sums and differences of rational numbers. **I can** apply and extend previous understandings of numbers to multiply and divide rational numbers. **I can** multiply and divide rational numbers. **I can** interpret products and quotients of rational numbers by describing real-world contexts. **I can** solve problems involving the four arithmetic operations with rational numbers. **I can** compute unit rates, including those that involve complex fractions, with like or different units. **I can** recognize and represent proportional relationships between quantities. **I can** determine when two quantities are in a proportional relationship. **I can** identify and/or compute the constant of proportionality (unit rate). **I can** explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation.
November	**7.RP.A.2c** **7.RP.A.2d**	**Markup** a percent added to the cost of an item to determine the	Item Specification Reports K-5 Missouri Learning	**I can** recognize and represent proportional relationships between quantities. **I can** explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation.

	7.RP.A.3	selling price. **Simple interest** a percent of an amount borrowed that is paid to the lender in addition to the amount borrowed. **Tax** a percent of a purchase that is added to the purchase and paid to a government. **Gratuity** a percent added on to the cost of a service. **Commission** a percent of a sales amount awarded to the person making the sale. **Percent** the number of parts per 100. **Percent change** the ratio that compares the amount of change to the original amount.	Standards 6-12 Missouri Learning Standards K-6 Math Glossary 7-12 Math Glossary Missouri EOC Math Reference Sheet End of Course Blueprints MAP Grade Level Blueprints	**I can** recognize that the graph of any proportional relationship will pass through the origin. **I can** solve problems involving ratios, rates, percentages and proportional relationships.

		Percent increase the percent a quantity increases from its original amount. **Percent decrease** the percent a quantity decreases from its original amount. **Percent Error** the ratio that describes how far an estimate is from the actual amount.		
December	**7.RP.A.3** **7.GM.B.5** **7.GM.B.2a** **7.GM.B.2b** **7.GM.B.6a**	**Percent** the number of parts per 100. **Percent change** the ratio that compares the amount of change to the original amount. **Percent increase** the percent a quantity increases from its original amount. **Percent decrease** the percent a quantity decreases from its original	Item Specification Reports K-5 Missouri Learning Standards 6-12 Missouri Learning Standards K-6 Math Glossary 7-12 Math Glossary Missouri EOC Math Reference Sheet End of Course Blueprints MAP Grade Level Blueprints	I can solve problems involving ratios, rates, percentages and proportional relationships. I can use angle properties to write and solve equations for an unknown angle. I can use a variety of tools to construct geometric shapes. **I can** determine if provided constraints will create a unique triangle through construction. **I can** construct special quadrilateral given specific parameters. **I can** understand the relationship between area, surface area and volume. **I can** find the area of triangles, quadrilaterals and other polygons composed of triangles and rectangles.

		amount. **Percent Error** the ratio that describes how far an estimate is from the actual amount. **Complementary Angles** two angles whose measures add up to 90°. **Supplementary Angles** two angles whose measures add up to 180°. **Congruent** when comparing, angles that have the same measurement and sides that are the same length. **Vertical Angles** opposite angles formed when two lines intersect; vertical angles are congruent.		
January	**7.EEI.A.1**	**Equivalent Expressions** expressions that	Item Specification Reports	**I can** apply properties of operations to simplify and to factor linear algebraic expressions with rational coefficients.

	7.EEI.A.2 **7.EEI.B.3a**	have the same value for every possible value of the variable.	K-5 Missouri Learning Standards 6-12 Missouri Learning Standards K-6 Math Glossary 7-12 Math Glossary Missouri EOC Math Reference Sheet End of Course Blueprints MAP Grade Level Blueprints	**I can** understand how to use equivalent expressions to clarify quantities in a problem. **I can** solve multi-step problems posed with rational numbers. **I can** convert between equivalent forms of the same number.
February	**7.EEI.B.4b** **7.EEI.B.4a** **7.EEI.B.4c** **7.EEI.B.3b** **7.GM.A.4b** **7.GM.B.4a**	**Equivalent Expressions** expressions that have the same value for every possible value of the variable. **Circumference** the distance around a circle. **Center** a point inside a circle that is equivalent from each point on the circle. **Diameter**	Item Specification Reports K-5 Missouri Learning Standards 6-12 Missouri Learning Standards K-6 Math Glossary 7-12 Math Glossary Missouri EOC Math Reference Sheet End of Course Blueprints MAP Grade Level	**I can** write and/or solve linear equations and inequalities in one variable. **I can** write and/or solve two-step equations of the form px + q = r and p(x + q) = r, where p, q and r are rational numbers, and interpret the meaning of the solution in the context of the problem. **I can** write and/or solve equations of the form x + p = q and px = q in which p and q are rational numbers. **I can** write, solve and/or graph inequalities of the form px + g > r or px + q < r, where p, q and r are rational numbers. **I can** solve multi-step problems posed with rational numbers. **I can** assess the reasonableness of answers using mental computation and estimation strategies. **I can** understand the concept of circles. **I can** apply the formulas for circumference and area of circles to solve problems.

		the distance across the circle through the center **Radius** the distance from the center to any point on the circle. **Pi** the ratio of the circumference to the diameter, represented by the Greek letter π.	Blueprints	**I can** analyze the relationships among the circumference, the radius, the diameter, the area and pi (π) in a circle.
March	**7.GM.A.1** **7.GM.B.6b** **7.GM.A.3** **7.DSP.A.1a** **7.DSP.A.1b** **7.DSP.A.1c**	**Scale Drawing** a drawing that shows an object with its measurements in proportion to the actual measurements of the object. **Scale** a ratio that compares the measurements used in a scale drawing with the actual	Item Specification Reports K-5 Missouri Learning Standards 6-12 Missouri Learning Standards K-6 Math Glossary 7-12 Math Glossary Missouri EOC Math Reference Sheet End of Course	**I can** solve problems involving scale drawings of real objects and geometric figures, including computing actual lengths and areas from a scale drawing and reproducing the drawing at a different scale. **I can** understand the relationship between area, surface area and volume. **I can** find the volume and surface area of prisms, pyramids and cylinders. **I can** describe two-dimensional cross sections of pyramids, prisms, cones and cylinders **I can** understand that statistics can be used to gain information about a population by examining a sample of the population **I can** understand that a sample is a subset of a population. **I can** understand that generalizations from a sample are valid only if the sample is

	7.DSP.A.2	measurements. **Scale Factor** a constant of proportionality. **Right Prism** a solid with two parallel bases that are polygons and lateral faces perpendicular to the bases. **Cross-section** a two-dimensional shape that is exposed by making a straight cut through a section of a three-dimensional figure. **Random Sample** a sample in which every element in the population has an equal chance of being selected. **Population** the entire group considered for a survey. **Biased Sample** a sample that does not represent the whole population.	Blueprints MAP Grade Level Blueprints	representative of the population. **I can** understand that random sampling is used to produce representative samples and support valid inferences. **I can** use data from multiple samples to draw inferences about a population and investigate variability in estimates of the characteristic of interest.

		Random Variable a variable is subject to random variation if its value is not predictable.		
April	**7.DSP.B.3** **7.DSP.B.4** **7.DSP.A.2** **7.DSP.C.5a** **7.DSP.C.5b** **7.DSP.C.6a** **7.DSP.C.6b** **7.DSP.C.6c** **7.DSP.C.7a** **7.DSP.C.7b** **7.DSP.C.8a**	**Random Sample** a sample in which every element in the population has an equal chance of being selected. **Population** the entire group considered for a survey. **Biased Sample** a sample that does not represent the whole population. **Random Variable** a variable is subject to random variation if its value is not predictable. **Mean** the average of the numbers; the sum of the values divided by the number of the values.	Item Specification Reports K-5 Missouri Learning Standards 6-12 Missouri Learning Standards K-6 Math Glossary 7-12 Math Glossary Missouri EOC Math Reference Sheet End of Course Blueprints MAP Grade Level Blueprints	**I can** analyze different data distributions using statistical measures. **I can** compare the numerical measures of center, measures of frequency and measures of variability from two random samples to draw inferences about the population. **I can** use data from multiple samples to draw inferences about a population and investigate variability in estimates of the characteristic of interest. **I can** investigate the probability of chance events. **I can** determine probabilities of simple events. **I can** understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. **I can** investigate the relationship between theoretical and experimental probabilities for simple events. **I can** predict outcomes using theoretical probability. **I can** perform experiments that model theoretical probability. I can compare theoretical and experimental probabilities. **I can** explain possible discrepancies between a developed probability model and observed frequencies. **I can** develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. **I can** develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process.

	7.DSP.C.8b	**Mean Absolute Deviation (MAD)** the average distance of each data point from the mean. **Probability** the likelihood of an event happening. **Experiment** a repeatable procedure involving chance that results in one or more possible outcomes. **Outcome** one of the possible results of an experiment. **Event** a set of one or more outcomes of an experiment. **Certain** the probability of an event when that specific event will definitely happen. **Impossible** the probability of		**I can** find probabilities of compound events using organized lists, tables, tree diagrams and simulations. **I can** represent the sample space of a compound event. **I can** design and use a simulation to generate frequencies for compound events.

		an event when that specific event will definitely not happen. **Trial** what an experiment is called in probability. **Experimental Probability** the probability of an event based on the results from an experiment. **Theoretical Probability** what is expected to happen in an experiment. **Sample Space** the set of possible outcomes for an experiment. **Uniform Probability Model** when each outcome of a probability model is equally likely. **Non-Uniform Probability Model** when each		

		outcome of a probability model is not equally likely. **Compound Event** an event that consists of two or more simple events. **Tree Diagram** a visual model that shows all possible outcomes of an event.		
May				