Cartersville Middle School- Sixth Grade Math

Topic of Study	Number System Fluency	Rate, Ratio and Proportional Reasoning Using Equivalent Fractions	Expressions	One-Step Equations & Inequalities	Area & Volume	Statistics	Rational Explorations: Numbers & their Opposites
Big Ideas	• Greatest common factor of two whole numbers less than or equal to 100. • Least common multiple of two whole numbers less than or equal to 12. • Distributive property • Quotients of fractions. • Visual models division of fractions • Division of multi-digit numbers using standard algorithm • + - x ÷ multi-digit decimals	• Deep understanding & use of proportional reasoning • Multiplicative thinking • Ratio understanding as comparison of two numbers or quantities • Find percents using the same processes for solving rates and proportions • Solve real-life problems involving measurement units that need to be converted	• Repeated multiplication with exponents. • Evaluate expressions containing exponents • Translate verbal phrases and situations into algebraic expressions. • Identify the parts of a given expression. • Use the properties to identify & generate equivalent expressions.	• Determine if an equation or inequality appropriate for a given situation. • Solve mathematical & real-world problems with equations & inequalities. • Interpret & analyze the solutions to inequalities on a number line. • Analyze the relationship between dependent & independent variables through the use of tables, equations and graphs.	• Find areas of triangles and special quadrilaterals & composite figures by composing & decomposing shapes into rectangles & triangles. • Solve problems involving area and surface area of rectangular & triangular prisms by using manipulatives & nets. • Recognize and construct nets for rectangular and triangular prisms. • Measure and compute volume with fractional edge lengths (like ½ of a unit) • Find the volumes of right rectangular prisms by substituting given values for their dimensions into the correct formulas.	• Analyze organized lists, box-plots, bar graphs, histograms & dot plots. • Understand responses to statistical questions & that data can be described by a single number. • Determine quantitative measures of center (median & mean). • Determine quantitative measures of variability (interquartile range & range).	• Understand that positive & negative numbers are used together to describe quantities having opposite directions or values. • Understand a rational number as a point on the number line & that number opposites are found on opposite sides of zero. • 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 & position integers and other rational numbers on a horizontal or vertical number line diagram & in the coordinate plane. • Understand ordering and absolute value of rational numbers.

					• Make the connection that finding the volume given the length x width is the same as the base (B).		• Understand the absolute value of a rational number as its distance from 0 on the number line
Math Practices	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.						