

## 6<sup>th</sup> Grade Advanced Math Map

Unit Title	Resources	Standards
Unit 1 The Number System	Chapter 1 Chapter 2 Chapter 4 Chapter 6	<p>Start</p> <p>6.NS.4 Find common factors and multiples using two whole numbers.</p> <p>6.NS.5 Understand that the positive and negative representations of a number are opposites in direction and value. Use integers to represent quantities in real-world situations and explain the meaning of zero in each situation.</p> <p>6.NS.6 Extend the understanding of the number line to include all rational numbers and apply this concept to the coordinate plane.</p> <p>6.NS.7 Understand and apply the concepts of comparing, ordering, and finding absolute value to rational numbers.</p> <p>7.NS.4 Understand and apply the concepts of comparing and ordering to rational numbers. a. Interpret statements using less than (<math>&lt;</math>), greater than (<math>&gt;</math>), less than or equal to (<math>\leq</math>), greater than or equal to (<math>\geq</math>), and equal to (<math>=</math>) as relative locations on the number line. b. Use concepts of equality and inequality to write and explain real-world and mathematical situations.</p> <p>6.NS.1 Compute and represent quotients of positive fractions using a variety of procedures (e.g., visual models, equations, and real-world situations).</p> <p>7.NS.1 Extend prior knowledge of operations with positive rational numbers to add and to subtract all rational numbers and represent the sum or difference on a number line.</p> <p>6.NS.2 Fluently divide multi-digit whole numbers using a standard algorithmic approach.</p> <p>7.NS.2 Extend prior knowledge of operations with positive rational numbers to multiply and to divide all rational numbers.</p> <p>6.NS.3 Fluently add, subtract, multiply and divide multi-digit decimal numbers using a standard algorithmic approach</p> <p>7.NS.3 Apply the concepts of all four operations with rational numbers to solve real-world and mathematical problems.</p> <p>6.NS.8 Extend knowledge of the coordinate plane to solve real-world and mathematical problems involving rational numbers.</p> <p>6.GM.3 Apply the concepts of polygons and the coordinate plane to real-world and mathematical situations.</p> <p>6.NS.9 Investigate and translate among multiple representations of rational numbers (fractions, decimal numbers, percentages). Fractions should be limited to those with denominators of 2, 3, 4, 5, 8, 10, and 100.</p>



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		7.NS.5 Extend prior knowledge to translate among multiple representations of rational numbers (fractions, decimal numbers, percentages).
Unit 2 Ratios and Proportions	Chapter 3 Chapter 5 Chapter 12	<p>6.RP.1 Interpret the concept of a ratio as the relationship between two quantities, including part to part and part to whole.</p> <p>6.RP.2 Investigate relationships between ratios and rates.</p> <p>6.RP.3 Apply the concepts of ratios and rates to solve real-world and mathematical problems.</p> <p>7.RP.1 Compute unit rates, including those involving complex fractions, with like or different units.</p> <p>7.RP.2 Identify and model proportional relationships given multiple representations, including tables, graphs, equations, diagrams, verbal descriptions, and real-world situations.</p> <p>7.RP.3 Solve real-world and mathematical problems involving ratios and percentages using proportional reasoning (e.g., multi-step dimensional analysis, percent increase/decrease, tax).</p>
Unit 3 Expressions, Equations, and Inequalities	Chapter 7 Chapter 8 Chapter 9	<p>6.EE.1 Write and evaluate numerical expressions involving whole-number exponents and positive rational number bases using the Order of Operations.</p> <p>6.EE.2 Extend the concepts of numerical expressions to algebraic expressions involving positive rational numbers.</p> <p>7.EE.3 Extend previous understanding of Order of Operations to solve multi-step real-world and mathematical problems involving rational numbers. Include fraction bars as a grouping symbol.</p> <p>6.EE.3 Apply mathematical properties (e.g., commutative, associative, distributive) to generate equivalent expressions.</p> <p>6.EE.4 Apply mathematical properties (e.g., commutative, associative, distributive) to justify that two expressions are equivalent.</p> <p>6.EE.5 Understand that if any solutions exist, the solution set for an equation or inequality consists of values that make the equation or inequality true.</p> <p>6.EE.6 Write expressions using variables to represent quantities in real-world and mathematical situations. Understand the meaning of the variable in the context of the situation.</p> <p>6.EE.7 Write and solve one-step linear equations in one variable involving nonnegative rational numbers for real-world and mathematical situations.</p> <p>7.EE.4 Apply the concepts of linear equations and inequalities in one variable to real-world and mathematical situations.</p>



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		<p>6.EE.8 Extend knowledge of inequalities used to compare numerical expressions to include algebraic expressions in real-world and mathematical situations.</p> <p>6.EE.9 Investigate multiple representations of relationships in real-world and mathematical situations.</p>
Unit 4 Geometry and Measurement	Chapter 13  Chapter 14	<p>6.GM.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.</p> <p>6.GM.2 Use visual models (e.g., model by packing) to discover that the formulas for the volume of a right rectangular prism (<math>V = lwh</math>, <math>V = Bh</math>) are the same for whole or fractional edge lengths. Apply these formulas to solve real-world and mathematical problems.</p> <p>6.GM.3 Apply the concepts of polygons and the coordinate plane to real-world and mathematical situations.</p> <p>6.GM.4 Unfold three-dimensional figures into two-dimensional rectangles and triangles (nets) to find the surface area and to solve real-world and mathematical problems.</p>
Unit 5 Data Analysis and Statistics	Chapter 15 Chapter 16	<p>6.DS.1 Differentiate between statistical and non-statistical questions.</p> <p>6.DS.2 Use center (mean, median, mode), spread (range, interquartile range, mean absolute value), and shape (symmetrical, skewed left, skewed right) to describe the distribution of a set of data collected to answer a statistical question.</p> <p>6.DS.3 Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.</p> <p>6.DS.4 Select and create an appropriate display for numerical data, including dot plots, histograms, and box plots</p> <p>6.DS.5 Describe numerical data sets in relation to their real-world context.</p>