

6th 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 ($<$), greater than ($>$), less than or equal to (\leq), greater than or equal to (\geq), and equal to ($=$) 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	6.RP.1 Interpret the concept of a ratio as the relationship between two quantities, including part to part and part to whole. 6.RP.2 Investigate relationships between ratios and rates. 6.RP.3 Apply the concepts of ratios and rates to solve real-world and mathematical problems. 7.RP.1 Compute unit rates, including those involving complex fractions, with like or different units. 7.RP.2 Identify and model proportional relationships given multiple representations, including tables, graphs, equations, diagrams, verbal descriptions, and real-world situations. 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).
Unit 3 Expressions, Equations, and Inequalities	Chapter 7 Chapter 8 Chapter 9	6.EE.1 Write and evaluate numerical expressions involving whole-number exponents and positive rational number bases using the Order of Operations. 6.EE.2 Extend the concepts of numerical expressions to algebraic expressions involving positive rational numbers. 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. 6.EE.3 Apply mathematical properties (e.g., commutative, associative, distributive) to generate equivalent expressions. 6.EE.4 Apply mathematical properties (e.g., commutative, associative, distributive) to justify that two expressions are equivalent. 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. 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. 6.EE.7 Write and solve one-step linear equations in one variable involving nonnegative rational numbers for real-world and mathematical situations. 7.EE.4 Apply the concepts of linear equations and inequalities in one variable to real-world and mathematical situations.

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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 ($V = lwh$, $V = Bh$) 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>