Unit Title	Standards	Resource
Unit 1 Data Collection	6.DS.1 Differentiate between statistical and non-statistical questions. 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. 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. 6.DS.4 Select and create an appropriate display for numerical data, including dot plots, histograms, and box plots. 6.DS.5 Describe numerical data sets in relation to their real-world context. a. State the sample size. b. Describe the qualitative aspects of the data (e.g., how it was measured, units of measurement). c. Give measures of center (median, mean). d. Find measures of variability (interquartile range, mean absolute deviation) using a number line. e. Describe the overall pattern (shape) of the distribution.	Chapter 15 Chapter 16 Chapter 12 and review

	f. Justify the choices for measure of center and measure of variability based on the shape of the distribution. g. Describe the impact that inserting or deleting a data point has on the measures of center (median, mean) for a data set.	
Unit 2 Number Theory	6.NS.1 Compute and represent quotients of positive fractions using a variety of procedures (e.g., visual models, equations, and real-world situations). 6.NS.2 Fluently divide multi-digit whole numbers using a standard algorithmic approach. 6.NS.3 Fluently add, subtract, multiply and divide multi-digit decimal numbers using a standard algorithmic approach. 6.NS.4 Find common factors and multiples using two whole numbers. a. Compute the greatest common factor (GCF) of two numbers both less than or equal to 100. b. Compute the least common multiple (LCM) of two numbers both less than or equal to 12. c. Express sums of two whole numbers, each less than or equal to 100, using the distributive property to factor out a common factor of the original addends. 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.	**Chapter 1** **Chapter 2** **Chapter 4** **Chapter 6**.

	7.NS.5 Extend prior knowledge to translate among multiple representations of rational numbers (fractions, decimal numbers, percentages). Exclude the conversion of repeating decimal numbers to fractions. 6.EEI.1 Write and evaluate numerical expressions involving whole-number exponents and positive rational number bases using the Order of Operations.	
Unit 3 Fractions, Ratios, Rates	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. a. Translate between multiple representations of ratios (i.e., $^{a}/_{b}$, a:b, a to b, visual models). b. Recognize that a rate is a type of ratio involving two different units. c. Convert from rates to unit rates. 6.RP.3 Apply the concepts of ratios and rates to solve real-world and mathematical problems. a. Create a table consisting of equivalent ratios and plot the results on the coordinate plane. b. Use multiple representations, including tape diagrams, tables, double number lines, and equations, to find missing values of equivalent ratios.	-Chapter 3: Chapter 5: Focus on multiple representations

	c. Use two tables to compare related ratios. d. Apply concepts of unit rate to solve problems, including unit pricing and constant speed. e. Understand that a percentage is a rate per 100 and use this to solve problems involving wholes, parts, and percentages. f. Solve one-step problems involving ratios and unit rates (e.g., dimensional analysis).	
Unit 4 Expressions, Equations, Inequalities	6.EEI.1 Write and evaluate numerical expressions involving whole-number exponents and positive rational number bases using the Order of Operations. 6.EEI.2 Extend the concepts of numerical expressions to algebraic expressions involving positive rational numbers. a. Translate between algebraic expressions and verbal phrases that include variables. b. Investigate and identify parts of algebraic expressions using mathematical terminology, including term, coefficient, constant, and factor. c. Evaluate real-world and algebraic expressions for specific values using the Order of Operations. Grouping symbols should be limited to parentheses, braces, and brackets. Exponents should be limited to whole-numbers. 6.EEI.3 Apply mathematical properties (e.g.,	Focus on vocabulary. Chapter 9

	commutative, associative, distributive) to generate equivalent expressions. 6.EEI.4 Apply mathematical properties (e.g., commutative, associative, distributive) to justify that two expressions are equivalent. 6.EEI.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.EEI.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.EEI.7 Write and solve one-step linear equations in one variable involving nonnegative rational numbers for real-world and mathematical situations. 6.EEI.8 Extend knowledge of inequalities used to compare numerical expressions to include algebraic expressions in real-world and mathematical situations. a. Write an inequality of the form $x > c$ or $x < c$ and graph the solution set on a number line. b. Recognize that inequalities have infinitely many solutions. 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 (≤), greater than or equal to (≥), 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. 6.EEI.9 Investigate multiple representations of relationships in real-world and mathematical situations. a. Write an equation that models a relationship between independent and dependent variables. b. Analyze the relationship between independent and dependent variables using graphs and tables. c. Translate among graphs, tables, and equations. 6.NS.3 Fluently add, subtract, multiply and divide multi-digit decimal numbers using a standard algorithmic approach. 6.NS.6 Extend the understanding of the number line to include all rational numbers and apply this concept to the coordinate plane. c. Recognize when ordered pairs are reflections of each other on the coordinate plane across one axis, both axes, or the origin. 6.RP.3 Apply the concepts of ratios and rates to solve real-world and mathematical problems. b. Use multiple representations, including tape diagrams, tables, double number lines, and equations, to find missing values of equivalent ratios. c. Use two tables to compare related ratios.	

Unit 5 Integers & the Coordinate Plane	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. 6.NS.6 Extend the understanding of the number line to include all rational numbers and apply this concept to the coordinate plane. a. Understand the concept of opposite numbers, including zero, and their relative locations on the number line. b. Understand that the signs of the coordinates in ordered pairs indicate their location on an axis or in a quadrant on the coordinate plane. c. Recognize when ordered pairs are reflections of each other on the coordinate plane across one axis, both axes, or the origin. d. Plot rational numbers on number lines and ordered pairs on coordinate planes. 6.NS.7 Understand and apply the concepts of comparing, ordering, and finding absolute value to rational numbers. a. Interpret statements using equal to (=) and not equal to (≠). b. Interpret statements using less than (<), greater than (>), and equal to (=) as relative locations on the number line.	Chapter 10: include Absolute Value Chapter 11: Include missing vertex

	c. Use concepts of equality and inequality to write and to explain real-world and mathematical situations. d. Understand that absolute value represents a number's distance from zero on the number line and use the absolute value of a rational number to represent real- world situations. e. Recognize the difference between comparing absolute values and ordering rational numbers. For negative rational numbers, understand that as the absolute value increases, the value of the negative number decreases. 6.NS.8 Extend knowledge of the coordinate plane to solve real-world and mathematical problems involving rational numbers. b. Plot points in all four quadrants to represent the problem. c. Find the distance between two points when ordered pairs have the same *x*-coordinates or same *y*-coordinates. d. Relate finding the distance between two points in a coordinate plane to absolute value using a number line. 6.GM.3 Apply the concepts of polygons and the coordinate plane to real-world and mathematical situations. e. Given coordinates of the vertices, draw a polygon in the coordinate plane. Find the length of an edge if the vertices have the	

	same *x*-coordinates or same *y*-coordinates.	
Unit 6 Geometry	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. 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. 6.GM.3 Apply the concepts of polygons and the coordinate plane to real-world and mathematical situations. a. Given coordinates of the vertices, draw a polygon in the coordinate plane. b. Find the length of an edge if the vertices have the same *x*-coordinates or same *y*- coordinates. 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.	Chapter 13 Chapter 14
Unit 7 Advanced Ratio and Proportional Reasoning	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. a. Determine when two quantities are in a proportional relationship. b. Recognize or compute the constant of proportionality. c. Understand that the constant of proportionality is the unit rate. d. Use equations to model proportional relationships. e. Investigate the graph of a proportional relationship and explain the meaning of specific points (e.g., origin, unit rate) in the context of the situation. 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 8 Advanced Number Theory	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. a. Understand that the additive inverse of a number is its opposite and their sum is equal to zero. b. Understand that the sum of two rational numbers ($p + q$) represents a distance from *p* on the number line equal to |*q*| where the direction is	

	indicated by the sign of q. c. Translate between the subtraction of rational numbers and addition using the additive inverse, $p - q = p + (-q)$. d. Demonstrate that the distance between two rational numbers on the number line is the absolute value of their difference. e. Apply mathematical properties (e.g., commutative, associative, distributive, or the properties of identity and inverse elements) to add and subtract rational numbers. 7.NS.2 Extend prior knowledge of operations with positive rational numbers to multiply and to divide all rational numbers. a. Understand that the multiplicative inverse of a number is its reciprocal and their product is equal to one. b. Understand sign rules for multiplying rational numbers. c. Understand sign rules for dividing rational numbers and that a quotient of integers (with a non-zero divisor) is a rational number. d. Apply mathematical properties (e.g., commutative, associative, distributive, or the properties of identity and inverse elements) to multiply and divide rational numbers. e. Understand that some rational numbers can be written as integers and all rational numbers can be written as fractions or decimal numbers that	

	terminate or repeat. 7.NS.3 Apply the concepts of all four operations with rational numbers to solve real-world and mathematical problems. 7.NS.4 – see unit 4 7.NS.5 – see unit 2	