

Grade 8	Title	Content	Essential Questions
<b>Quarter 1</b>	Chapter 1: Rational Numbers	1.1 Rational Numbers	How can you write rational numbers as decimals and as fractions?
		1.2 Multiplying Rational Numbers	How do you multiply rational numbers?
		1.3 Dividing Rational Numbers	How do you divide rational numbers?
		1.4 Adding and Subtracting with Unlike Denominators	How do you add and subtract fractions with unlike denominators?
		1.5 Solving Equations with Rational Numbers	How do you solve equations that contain rational numbers?
		1.6 Solving Two-Step Equations	How do you solve equations that contain multiple operations?
	Chapter 2: Graphs and Functions	2.1 Ordered Pairs	How do you determine whether an ordered pair is a solution of an equation?
		2.2 Graphing on a Coordinate Plane	How do you locate and name points in the coordinate plane?
		2.3 Interpreting Graphs	How can you describe a relationship given a graph and sketch a graph given a description?
		2.4 Functions	How do you represent a function with a table or graph?
2.5 Equations, Tables, and Graphs		How can you use equations, tables, and graphs to represent relationships between two variables?	
<b>Quarter 2</b>	Chapter 3: Exponents and Roots	3.1 Integer Exponents	How can you evaluate negative exponents?
		3.2 Properties of Exponents	How can you develop and use the properties of integer exponents?
		3.3-3.4 Operations with Scientific Notation	How can you use scientific notation to express very small and very large quantities?
		3.5-3.6 Squares and Square roots	How do you add, subtract, multiply, and divide using scientific notation?
		3.7 Real Numbers	How do you evaluate square roots and cube roots?
			How do you estimate and compare irrational numbers?
			How can you tell whether a number is rational or irrational?
		3.8-3.9 Pythagorean Theorem	How can you use the pythagorean theorem to solve problems?
		How can you prove the pythagorean theorem and its converse?	
	Chapter 4: Ratios, Proportions, and Similarity	4.1 Ratios, Rates, and Unit Rate	How do you find and compare unit rates?
		4.2 Solving proportions	How can you use tables to identify and describe proportional relationships?
		4.3 Similar Figures	How can you determine when two triangles are similar?
		4.4 Dilations	How can you use coordinates to describe the result of a dilation?

Grade 8	Title	Content	Essential Questions
<b>Quarter 3</b>	Chapter 7: Multi-Step Equations	7.1 Simplifying Algebraic Expressions 7.2 Solving Multi-Step Equations 7.3 Solving Equations with Variables on Both Sides 7.4 Systems of Equations	How do you simplify algebraic expressions? How do you solve equations by collecting like terms and multiplying expressions? How can you give examples with a given number of solutions? How can you solve a system of equations algebraically?
	Chapter 8: Graphing Lines	8.1 Graphing Linear Equations 8.2 Slope of a Line 8.3 Using Slopes and Intercepts 8.4 Point-Slope Form 8.5 Direct Variation 8.6 Solving Systems of Linear Equations by Graphing	How do you find rate of change? How can you show that the slope of a line is the same between any two points on the line? How can you use slopes and intercepts to write and graph linear equations? How can you develop the point-slope form of an equation of a line? How can you identify a direct variation? How can you solve a system of equations by graphing?
<b>Quarter 4</b>	Chapter 9: Data, Prediction, and Linear Functions	9.1 Scatter Plots 9.2 Linear Best Fit Models Ext Patterns in Two-Way Tables 9.3 Linear Functions 9.4 Comparing Multiple Representations	How do you construct and interpret scatter plot? How can you use a trend line to make a prediction from a scatter plot? How can you construct and interpret two-way tables? How do you graph a linear function? How can you use tables, graphs, and equations to compare functions?
	Chapter 5: Geometric Relationships	5.1 Angle Relationships 5.2 Parallel and Perpendicular Lines 5.3 Triangles 5.4 Coordinate Geometry 5.5 Congruence 5.6 Transformations 5.7 Similarity and Congruence Transformations 5.8 Identifying Combined Transformations	How can you use angle pairs to solve problems? What can you conclude about the angles formed by parallel lines that are cut by a transversal? What can you conclude about the measures of the angles of a triangle? How do you use coordinates to find scale factor? How can you prove that two triangles are congruent? How can you use coordinates to describe the result of a translation, reflection, or rotation? What properties of a figure are preserved under a translation, reflection, or rotation? What is the connection between transformations and congruent figures and transformations and similar figures?
	Chapter 6: Measurement and Geometry	6.1 Circles 6.2 Volumes of Prisms and Cylinders 6.3 Volumes of Pyramids and Cones 6.4 Spheres	How do you find the area of a circle? How can you solve problems using the formula for the volume of a cylinder? How can you solve problems using the formula for the volume of a cone? How can you solve problems using the formula for the volume of a sphere?