Math: Grade 7

UNIT/Weeks (not consecutive)	Timeline/Topics	Essential Questions
6	**The Number System** • Adding and Subtracting Integers • Multiplying and Dividing Integers • Rational Numbers	• How can you use addition and subtraction of integers to solve real-world problems? • How can you use multiplication and division of integers to solve real-world problems? • How can you use rational numbers to solve real-world problems?
5	**Ratios and Proportional Relationships** • Rates and Proportionality • Proportions and Percents	• How can you use rates and proportionality to solve real-world problems? • How can you use proportions and percents to solve real-world problems?
5	**Expressions, Equations, and Inequalities** • Expressions and Equations • Inequalities	• How can you use algebraic expressions and equations to solve real-world problems? • How can you use inequalities to solve real-world problems?
5	**Geometry** • Modeling Geometric Figures • Circumference, Area, and Volume	• How can you use proportions to solve real-world problems? • How can you apply geometry concepts to solve real-world problems?
5	**Statistics** • Random Samples and Populations • Analyzing and Comparing Data	• How can you use random samples and populations to solve real-world problems?

		• How can you solve real-world problems by analyzing and comparing data?
4	**Probability** • Experimental Probability • Theoretical Probability and Simulations	• How can you use experimental probability to solve real-world problems? • How can you use theoretical probability to solve real-world problems? • How can you find the theoretical probability of compound events? • How do you find the probability of a compound event? • How can you make predictions using theoretical probability?
1.2	**Real Numbers, Exponents, and Scientific Notation** • Rational and Irrational Numbers • Sets of Real Numbers • Ordering Real Numbers	• How can you use real numbers to solve real-world problems? • How can you describe relationships between sets of real numbers?
1.2	**Transformational Geometry** • Translations, Reflections, and Rotations • Algebraic Representations of Transformations	• How can you use transformations and congruence to solve real world problems? • How can you describe the effect of a dilation on the coordinates using an algebraic representation? • How do you describe the properties of translation and their

		effect on the congruence and orientation of figures? • How do you describe the properties of reflection and their effect on the congruence and orientation of figures? • How can transformations be used to verify that two figures have the same shape and size? • How do you describe the properties of dilations?
3.6	**Measurement Geometry** Module 21: Angle Relationships in Parallel Lines and Triangles Module 22: Volume	• How can you apply the volume formulas for cylinders, cones, and spheres to real-world problems? • How can you use angle relationships in parallel lines and triangles to solve real world problems? • What can you conclude about the measures of the angles of a triangle? • How can you prove the Pythagorean Theorem and use it to solve real world problems? • How can you test the converse of the Pythagorean Theorem and use it to solve problems? • How can you use the Pythagorean Theorem

		to find the distance between the points on a coordinate plane? • What can you conclude about the angles formed by parallel lines that are cut by a transversal? • How can you determine when two angles are similar? • How do you find the volume of a cylinder? • How do you find the volume of a cone? • How do you find the volume of a sphere?