Essential Questions for Math Grade 7	
Module 1: Ratios and Proportional Reasoning	1. What information do I get when I compare two numbers using a ratio? 2. How is unit rate computed in real-world problems and how can unit rate be represented in tables, graphs, equations, and diagrams? 3. What conditions help to recognize and represent proportional relationships between quantities and how are these relationships used to solve multistep ratio problems? 4. Explain what a point on the graph of a proportional relationship means in terms of the situation.
Module2: Rational Numbers	1. What models and strategies can be used to show addition, subtraction, multiplication, and division of positive and negative rational numbers? 2. How can I use models to prove that opposites combine to zero? Name some real-life situations that combine to make zero. 3. How do I use a number line to model rational numbers? 4. How do I convert, compare, and order between varying types of rational numbers.
Module 3: Expressions and Equations	1. How can we represent values using variables and use these variables to solve real-world problems with equations? 2. What are the similarities and differences between expressions, equations, and inequalities? 3. What strategies can be used to solve and graph equations and inequalities?
Module 4: Percents and Proportional Reasoning	1. How can you use proportional relationships to solve multi-step problems involving ratio and percent? 2. What real-world problems can be solved using percent of change? 3. What are the similarities and differences between procedures for percents of increase and decrease?
Module 5: Statistics and Probability	1. Determine whether a sample is a random sample given a real-world situation. 2. Draw inferences about a population with an unknown characteristic of interest using data from a random sample. 3. Compare two numerical data distributions using measures of center and variability. 4. Predict or determine whether some outcomes are certain, more likely, less likely, equally likely, or impossible. 5. Find probabilities of a random event given relative frequency, simple events, or independent compound events using organized lists, tables, tree diagrams, and simulations.
Module 6: Geometry	1. Identify or describe the properties of all types of triangles based on angle and side measures, including the Triangle Inequality Theorem. 2. Describe the two-dimensional figures that result from slicing three-dimensional figures. 3. Identify and use properties of supplementary, complementary and adjacent angles in a multistep problem to write and solve simple equations for an unknown angle in a figure, including parallel lines cut by a transversal. 4. Solve real-world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of circles, triangles, quadrilaterals, polygons, cubes, and right prisms.