

**Essential Questions for Math
Geometry**

Module 1: Measurements of two dimensional shapes and figures	<ol style="list-style-type: none">1. Can the student manipulate geometric figures using transformations in the plane?2. Can students apply geometric concepts in modeling situations?3. Can students use coordinates to prove simple geometric theorem algebraically?
Module 2: Congruence, Similarity, and proof	<ol style="list-style-type: none">1. Do students understand congruence in terms of rigid motions?2. Can students prove geometric theorems and create proofs?3. Can students make geometric constructions?4. Do students understand similarity in terms of similarity transformations?
Module 3: Coordinate Geometry and Right Triangles	<ol style="list-style-type: none">1. Can students define trigonometric ratios and solve problems involving right triangles?2. Can students apply trigonometry to general triangles?3. Do students use geometric figured and their properties to represent transformations in the plane?4. Can students use coordinates to prove simple geometric theorems algebraically?
Module 4: Properties of Polygons and Polyhedra	<ol style="list-style-type: none">1. What are the differences between opposite angles in the various quadrilaterals?2. How are the opposite sides of parallelograms related?3. How are various polygons used and altered in the real world?
Module 5: Measurements of three dimensional shapes and figures	<ol style="list-style-type: none">1. Can students explain volume formulas and use them to solve problems?2. Can the students visualize the relation between two-dimensional and three-dimensional?3. Do students apply geometric concepts in modeling situations?
Module 6: Properties of Circles, Spheres, and Cylinders	<ol style="list-style-type: none">1. Do students understand and apply theorems about circles?2. Can students find arc lengths and areas of sectors of circles?3. How is the area and surface area of circles, spheres and cylinders related?4. Can students compare and calculate 2D and 3D circular figures with other polyhedra?