<table>
<thead>
<tr>
<th>Essential Units of Study</th>
<th>Content Topics</th>
<th>1st Six Weeks</th>
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<tbody>
<tr>
<td>01 Essentials of Geometry</td>
<td>Derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and whether pairs of lines are parallel or perpendicular.</td>
<td>8 days</td>
<td>6 days</td>
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<td>7 days</td>
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<tr>
<td>02 Logical Argument and Deductive Reasoning</td>
<td>Construct logical arguments in regards to segments, angles, congruence, and bisectors. Using deductive reasoning and writing logical sentences. Verify that a conjecture is false using a counterexample. Identify and determine the validity of the converse, inverse, and contrapositive of a conditional statement.</td>
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<td>03 Parallel and Perpendicular Lines</td>
<td>Make conjectures and verify theorems about angles formed by the intersection of lines including vertical angles, and angles formed by parallel lines cut by a transversal. Determine an equation of a line parallel or perpendicular to a given line that passes through a given point.</td>
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<td>04 Proofs and Triangle Congruence</td>
<td>Prove two triangles are congruent by applying the Side-Angle-Side, Angle-Side-Angle, Side-Side-Side, Angle-Side-Angle, and Hypotenuse-Leg congruence conditions. Show that corresponding parts of congruent triangles are congruent.</td>
<td>G.2B</td>
<td>G.4BC</td>
<td>G.5A</td>
<td>G.5A G.6BD</td>
<td>G.5A G.6D</td>
<td></td>
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<tr>
<td>05 Special Triangle Segments</td>
<td>Perpendicular bisectors, midsegments, angle bisectors, medians, altitudes. Triangle inequalities and Hinge Theorem. Points of concurrency - circumcenter, Centroid, incenter and orthocenter.</td>
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<td>06 Transformation</td>
<td>Transform an image or pre-image of two-dimensional figures using translation, reflection, rotation, dilation in coordinate notation. The center can be any point in the plane.</td>
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<td>07 Similarity</td>
<td>Prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems. Make conjectures about the diagonals of quadrilaterals.</td>
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<td>08 Special Right Triangles &amp; Trigonometry</td>
<td>Radical review, Pythagorean Theorem and Converse of Pythagorean Theorem. Similar Right Triangles and Geometric Mean 30-60-90 and 45-45-90 right triangles. Right triangle trigonometry including finding unknown side length or angle.</td>
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<td>09 Quadrilaterals</td>
<td>Properties of circles and the lines that intersect them: tangents, chords, secants, central angles, inscribed angles, equations and graphs of circles including center (h,k). Describe the radian measure of an angle as a ratio. Area and circumferencce of circle; Area of Sector, Arc Length and Arc Measure.</td>
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<td>10 Circles</td>
<td>Area of triangles, parallelograms, trapezoids, rhombi, regular polygons, kites. Effect of dimension change on perimeter and area, including proportional and non-proportional dimensional change. Geometric probability.</td>
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<td>11 2-D Figures</td>
<td>Identify whether two events are independent and compute the probability of the two events occurring together with or without replacement. Develop strategies to use permutations and combinations to solve contextual problems. Apply conditional probability in contextual problems.</td>
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<td>12 3-D Figures</td>
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**Geometry Year-at-a-Glance**

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**TeKS**

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- **G.6C**
- **G.5BD G.6A**
- **G.3ABCD**
- **G.7A**
- **G.9AB**
- **G.5A**
- **G.7A**
- **G.6A**
- **G.3ABCD**
- **G.7B G.8A**
- **G.8B G.6E**
- **G.12AE G.13B G.11B G.11CD G.13C**
- **G.12BCD G.10B G.11A G.10AB G.4D G.13ADE**

**McGraw Hill Resources**

- **1.1 to 1.5**
- **2-1 to 2-8**
- **3-1 to 3-5**
- **4-1 to 4-6**
- **5-1 to 5-3 5-5, 5-6**
- **4-7 9-1 to 9-5**
- **7-1 / 7-7 7-2 to 7-6 9-6**
- **8-1 to 8-5**
- **6-1 to 6-6**
- **10-1 to 10-8, 11-3 11-1, 11-2, 11-4, 11-5, 13-3**
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<td>Effect of change in surface area, and/or volume - using proportional and non-proportional dimensional change. Surface area, volume of prisms, cylinders, pyramids, cones, spheres. Lateral and total area, composite solids. PAP: Spheric geometry, solids of revolution.</td>
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