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Month	Content	Skills
September	<p><u>A. Basics of Geometry</u></p> <p>1. Patterns and Inductive Reasoning</p> <p>2. Points, Lines and Planes</p> <p>3. Segments and Their Measures</p> <p>4. Angles and Their Measures</p> <p>5. Segment and Angle Bisectors</p> <p>6. Angle Pair Relationships</p> <p>7. Introduction to Perimeter, Circumference, and Area</p> <p><u>B. Reasoning and Proof</u></p> <p>1. Conditional Statements</p> <p>2. Definitions and Biconditional Statements</p>	<p><u>A. Basics of Geometry</u></p> <p>A1. Use a pattern to predict a figure or number in a sequence. </p> <p>A2. Identify, name, and draw the related terms of geometry. (i.e. point, line, plane, segments, rays, intersections, etc.) </p> <p>A3. Use segment postulates and apply the distance formula to measure distances. </p> <p>A4. Use angle postulates and classify angles as acute, right, obtuse, or straight. </p> <p>A5. Bisect a segment and bisect an angle. </p> <p>A6. Identify vertical angles, linear pairs, complementary angles and supplementary angles and calculate angle measures. </p> <p>A7. Find the perimeter and area of common plane figures and use a general problem-solving plan. (i.e. draw a sketch, label known and unknown facts, choose related definitions, theorems, formulas, etc.) </p> <p><u>B. Reasoning and Proof</u></p> <p>B1. Recognize and analyze a conditional statements and write their inverses, converses, and contrapositives. </p> <p>B2. Rewrite postulates in a form suitable for solving a particular problem by recognizing and using definitions and biconditional statements. </p> <p>B3. Use symbolic notation to represent and write a logical argument and decide whether a logical statement is valid. </p> <p>B4. Use properties from algebra and about length and measure to solve equations. (i.e. properties of equality, reflexive property, etc.) </p> <p>B5. Prove statements about segments using the properties of segment congruence. </p>







Month	Content	Skills
	<p>3. Deductive Reasoning</p> <p>4. Reasoning with Properties from Algebra</p> <p>5. Proving Statements about Segments</p> <p>6. Proving Statements about Angles</p>	<p>B6. Use the properties of angle congruence to prove properties about special pairs of angles. </p>
<p>October</p>	<p><u>A. Perpendicular and Parallel Lines</u></p> <p>1. Lines and Angles</p> <p>2. Proof and Perpendicular Lines</p> <p>3. Parallel Lines</p> <p> a. Parallel Lines and Transversals</p> <p> b. Proving Lines are Parallel</p> <p> c. Using Properties of Parallel Lines</p> <p>4. Coordinate Planes</p> <p> a. Parallel lines</p> <p> b. Perpendicular Lines</p> <p><u>B. Congruent Triangles</u></p>	<p><u>A. Perpendicular and Parallel Lines</u></p> <p>A1. Identify relationships between lines and angles formed by coplanar lines intersected by a transversal. </p> <p>A2. Write a proof proving line are perpendicular and use the results to solve real-life problems. </p> <p>A3. Prove and use results about parallel lines and transversals to analyze and solve real life problems. </p> <p>A4. Use slope to decide whether lines in a coordinate plane are parallel and perpendicular. Write an equation for a line that is parallel to and one that is perpendicular to a given line. </p> <p><u>B. Congruent Triangles</u></p> <p>B1. Classify triangles by their sides and angels and find angle measures in triangles. </p> <p>B2. Identify congruent figures and corresponding parts. </p>

Month	Content	Skills
	<ol style="list-style-type: none"> 1. Triangles and Angles 2. Congruence and Triangles 3. Proving Triangles are Congruent <ol style="list-style-type: none"> a. SSS Congruence Postulate b. SAS Congruence Postulate c. ASA Congruence Postulate d. AAS Congruence Theorem e. HL Congruence Theorem f. Coordinate Geometry 	<p>B3. Use SSS, SAS, ASA, AAS, HL, or coordinate geometry to prove triangles are congruent. Explain and understand how properties of triangles are applied in real-life. </p>
<p>November</p>	<p><u>A. Congruent Triangles (continued)</u></p> <ol style="list-style-type: none"> 1. Using Congruent Triangles 2. Special Triangles <ol style="list-style-type: none"> a. Isosceles b. Equilateral c. Right <p><u>B. Properties of Triangles</u></p> <ol style="list-style-type: none"> 1. Perpendiculars and Bisectors 2. Bisectors of a Triangle 3. Medians and Altitudes of a Triangle 4. Midsegment Theorem 	<p><u>A. Congruent Triangles (continued)</u></p> <p>A1. Use congruent triangles to plan and prove that constructions are valid. </p> <p>A2. Use properties of isosceles, equilateral and right triangles. </p> <p><u>B. Properties of Triangles</u></p> <p>B1. Use properties of perpendicular bisectors and angle bisectors to identify equal distances. </p> <p>B2. Use properties of perpendicular bisectors and angle bisectors of a triangle. </p> <p>B3. Identify medians and altitudes of a triangles and use the properties in problem solving situations. </p> <p>B4. Identify midsegments and use properties of midsegments to determine lengths. </p> <p>B5. Compare the lengths of the sides or the measures of the angles of a triangle. </p> <p>B6. Wrtie an indirect proof to prove theorems that cannot be easily proved directly. Use the Hinge Theorem and its converse to compare side lengths and</p>

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	5. Inequalities in One Triangle 6. Indirect Proof and Inequalities in Two Triangles	angle measures in triangles. 
Decembe	<u>A. Quadrilaterals</u> 1. Polygons 2. Properties of Parallelograms 3. Proving Quadrilaterals are parallelograms 4. Rhombuses, Rectangles, and Squares 5. Trapezoids and kites 6. Areas of Triangles and Quadrilaterals	<u>A. Quadrilaterals</u> A1. Identify, name and describe polygons.  Use the sum of the measures of the interior angles of a quadrilateral to find an unknown angle measure.  A2. Use properties of parallelograms to solve problems in real life such as furniture design.  A3. Prove that a quadrilateral is a parallelogram using coordinate geometry.  A4. Use properties of rhombuses, rectangles, and square, including properties of diagonals to simplify tasks.  A5. Use properties of trapezoids and kites to reach conclusions about figures and real life objects.  A6. Find the areas of rectangles, kites, parallelograms, squares, triangles, trapezoids, and rhombuses. 
January	<u>A. Similarity</u> 1. Ratio and Proportion 2. Solving Geometric problems using Proportions.	<u>A. Similarity</u> A1. Find and simplify the ratio of two numbers and use that to solve real-life problems.  A2. Learn and use the properties of proportions and solve problems involving scales.  A3. Identify similar polygons and write similarity statements. 

Month	Content	Skills
	3. Similar Polygons 4. Similar Triangles 5. Proving Triangles are Similar 6. Proportions and Similar Triangles	A4. Identify similar triangles using AA similarity postulate.  A5. Prove Triangle similar by SSS and SAS Similarity Theorems.  A6. Use proportionality theorems to calculate missing side lengths of polygons. 
February	<u>A. Right Triangles and Trigonometry</u> 1. Similar right triangles 2. Pythagorean Theorem 3. Converse of the Pythagorean Theorem 4. Special Right Triangles a. 45-45-90 b. 30-60-90 5. Trigonometric ratios 6. Solving right triangles	<u>A. Right Triangles and Trigonometry</u> A1. Solve problems involving similar right triangles formed by the altitude drawn to the hypotenuse of a right triangle.  A2. Use Pythagorean Theorem to solve for missing side lengths of a triangle.  A3. Use the converse of the Pythagorean Theorem to classify triangles by their angle measures.  A4. Find the side lengths of special right triangles.  A5. Find the sine, cosine, and tangent of an acute angle.  A6. Use trig ratios to solve right triangles. 
March	<u>A. Circles</u> 1. Tangents to circles 2. Arcs and Chords	<u>A. Circles</u> J1. Identify segments and lines related to circles and use properties of a tangent to a circle to solve problems.  A2. Use properties of arcs and chords of circles to solve problems.  A3. Use inscribed angles and properties of inscribed polygons to solve

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	<p>3. Inscribed Angles</p> <p>4. Other Angle Relationships in Circles</p> <p>5. Segment Lengths in Circles</p> <p>6. Equations of Circles</p>	<p>problems. </p> <p>A4. Use angles formed by tangents, chords, and lines that intersect a circle to solve problems. </p> <p>A5. Find the length of segments of chords, tangents, and secants. </p> <p>A6. Write and use equations of circles to graph and solve problems. </p>
<p>April</p>	<p><u>A. Areas of Polygons and Circles</u></p> <p>1. Angle Measures in Polygons</p> <p>2. Areas of Regular Polygons</p> <p>3. Perimeters and Areas of Similar Figures.</p> <p>4. Circumference and Arc Length</p> <p>5. Areas of Circles and Sectors</p>	<p><u>A. Areas of Polygons and Circles</u></p> <p>A1. Find the interior and exterior angle measures of polygons and use them to solve real-life problems. </p> <p>A2. Find the areas of regular polygons. </p> <p>A3. Compare the areas and perimeters of similar figures. </p> <p>A4. Find the circumference and circular arc lengths. </p> <p>A5. Find the areas of circles or sectors of circles. </p>
<p>May</p>	<p><u>A. Surface Area and Volume</u></p> <p>1. Exploring Solids</p> <p>2. Surface Area of Prisms and Cylinders</p> <p>3. Surface Area of Pyramids and Cones</p> <p>4. Volume of Prisms and Cylinders</p>	<p><u>A. Surface Area and Volume</u></p> <p>A1. Use properties of polyhedra and Euler's Theorem in real-life situations. </p> <p>A2. Use and apply formulas for finding surface areas of prisms and cylinders. </p> <p>A3. Use and apply formulas for finding surface area of pyramids and cones. </p> <p>A4. Use and apply formulas for finding volume of prisms and cylinders. </p> <p>A5. Use and apply formulas for finding volume of pyramids and cones. </p>

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	5. Volume of Pyramids and Cones 6. Surface Area and Volume of Spheres 7. Similar Solids	A6. Use formulas for surface area and volume of spheres.  A7. Find and use the scale factor of similar solids. 
June	<u>A. Transformations (optional)</u> 1. Rigid Motion in a Plane 2. Reflections 3. Rotations 4. Translations and Vectors 5. Glide Reflections and Compositions <u>B. Architecture Project (optional)</u>	<u>A. Transformations (optional)</u> A1. Identify the three basic rigid transformations.  A2. Identify and use reflections in a plane and identify the relationships between reflections and line symmetry.  A3. Identify and perform rotations in a plane.  A4. Identify, perform, and use translations in a plane.  A5. Recognize and perform composite transformations like the glide reflection. 