

All Things Algebra® GEOMETRY CURRICULUM

Unit 1: Geometry Basics	Unit 2: Logic & Proof
<ul style="list-style-type: none"> • Points, Lines, Planes • Distance & Midpoint Formula • Segment Addition Postulate • Intro to Angles • Angle Addition Postulate • Angle Relationships • Constructions 	<ul style="list-style-type: none"> • Inductive Reasoning, Conjectures, Counterexamples • Compound Statements & Truth Tables • Conditional Statements & Bi-Conditional Statements • Venn Diagrams • Law of Syllogism & Law of Detachment • Properties of Equality • Algebraic Proofs • Intro to Properties of Congruence • Segment Proofs • Angle Proofs
Unit 3: Parallel & Perpendicular Lines	Unit 4: Congruent Triangles
<ul style="list-style-type: none"> • Parallel Lines & Transversals • Angles & Parallel Lines • Proving Lines Parallel • Slope Review • Parallel vs. Perpendicular • Equations of Lines (including Slope-Intercept, Standard Form, and Point-Slope Form) 	<ul style="list-style-type: none"> • Classifying Triangles • Angles of Triangles • Isosceles & Equilateral Triangles • Congruent Triangles • Triangle Congruence (SSS, SAS, ASA, AAS, HL) • Angle and Segment Congruence by CPCTC
Unit 5: Relationships in Triangles	Unit 6: Similar Triangles
<ul style="list-style-type: none"> • Triangle Midsegments • Perpendicular Bisectors & Angle Bisectors • Centers of Triangles: Circumcenter & Incenter • Medians, Altitudes, Centroid, & Orthocenter • Triangle Inequalities • Triangle Inequalities with Algebra 	<ul style="list-style-type: none"> • Ratios & Proportions • Similar Figures • Proving Triangles Similar: SSS, SAS, AA • Parallel Lines & Proportional Parts • Parts of Similar Triangles

Unit 7: Quadrilaterals	Unit 8: Trigonometry
<ul style="list-style-type: none"> • Interior & Exterior Angles of Polygons • Parallelograms • Rectangles • Rhombi • Squares • Quadrilaterals in the Coordinate Plane • Trapezoids • Kites 	<ul style="list-style-type: none"> • Pythagorean Theorem & Converse • Special Right Triangles • Similar Right Triangles • Geometric Mean • Trigonometry: Ratios & Finding Missing Sides • Trigonometry: Finding Missing Angles • Angles of Elevation & Depression • Law of Sines • Law of Cosines
Unit 9: Transformations	Unit 10: Circles
<ul style="list-style-type: none"> • Translations • Reflections (using the x-axis, y-axis, vertical and horizontal lines, and the lines $y = x$ and $y = -x$) • Rotations using the origin as the center • Rotations using any point as the center • Dilations using the origin as the center • Dilations using any point as the center • Sequences of Transformations • Symmetry (Line, Point, Rotational) 	<ul style="list-style-type: none"> • Vocabulary • Intro to Circles • Area & Circumference • Central Angles & Arc Measures • Arc Length • Chords & Arcs • Inscribed Angles • Tangents • Angles formed by Chords, Secants, & Tangents • Segment Lengths formed by Chords, Secants, & Tangents • Equations of Circles
Unit 11: Volume & Surface Area	
<ul style="list-style-type: none"> • Area of Plane Figures (including Triangles, Parallelograms, Rectangles, Squares, Trapezoids, and Circles) • Area of Sectors • Area of Composite Figures & Shaded Regions • Area of Regular Figures (using the Apothem) • Surface Area of Prisms & Cylinders • Surface Area of Pyramids & Cones • Volume of Prisms & Cylinders • Volume of Pyramids & Cones • Surface Area & Volume of Spheres • Similar Figures & Similar Solids (Comparing Area, Volume, & Surface Area) • Effects of Changing a Dimension 	