Unit	Overarching Question	Essential Questions	Big Ideas	Full Objectives	Assessment
Unit 1 Tools of Geometry	What tools are essential to understanding Geometry?	1. How can we use Multiple representation to communicate geometry notation?	1. Undefined terms are the cornerstone of geometry.	G.2D.1.5 Use coordinate geometry to represent and analyze line segments and polygons, including determining lengths, midpoints, and slopes of line segments.	Daily Grades, Formative Assessment, FAL, and Summative Assessments
		2. How are coordinates used to prove relationships between lines/segments and within segments?	2. Line segment relationships are determined by length and direction on the coordinate plane.	G.RL.1.1 Understand the use of undefined terms, definitions, postulates, and theorems in logical arguments/proofs.	
Timing 2-3 weeks **Objectives** G.2D.1.5 G.RL.1.1					

Unit 2 Logical Reasoning	How can we justify our reasoning with logic?	1. How is a conditional statement used to explain arguments in Geometry?	1. Reasoning is the key to logical arguments.	G.RL.1.2 Analyze and draw conclusions based on a set of conditions using inductive and deductive reasoning. Recognize the logical relationships between a conditional statement and its inverse, converse, and contrapositive.	Daily Grades, Formative Assessment, FAL, and Summative Assessments
	How can we justify our reasoning with logic?	2. What are the similarities and differences of Inductive and Deductive Reasoning?	2. Conditional Statements have hypotheses and conclusions.	G.RL.1.3 Assess the validity of a logical argument and give counterexamples to disprove a statement.	
		3. Why can a good definition be written as a biconditional?			
Objectives G.2D.1.5 G.RL.1.1 **Timing** 2-3 Weeks					

Unit 3 Parallel and Perpendicuar Lines **Timing** 2-3 weeks **Objective** G.2D.1.1 G.2D.1.2	How do intersecting lines determine angle relationships?	1. What are the differences and similarties between different angle paris?	1. Intersecting lines determine relationships among angle measures.	G.2D.1.1 Apply the properties of parallel and perpendicular lines, including properties of angles formed by a transversal, to solve real-world and mathematical problems and determine if two lines are parallel, using algebraic reasoning and proofs.	Daily Grades, Formative Assessment, FAL, and Summative Assessments
		2. How do we prove a statement is true about parallel lines?	2. Relationships between angles prove whether lines are parallel.	G.2D.1.2 Apply the properties of angles, including corresponding, exterior, interior, vertical, complementary, and supplementary angles to solve real world and mathematical problems using algebraic reasoning and proofs.	

Unit 4 Congruence/ Quadrilaterals **Objective** G.2D.1.3 G.2D.1.4 G.2D.1.5 G.2D.1.6 G.2D.1.7 G.2D.1.8 **Timing** 5-6 weeks	What does it mean for geometric figures to be congruent?	1. How do we know when two geometric figures are congruent? 2. How do we prove a statement is true about triangles, quadrilaterals, and other polygons? 3. How can we classify a quadrilateral by its properties? Chapter 4 and Chapter 6	1. How do we know when two geometric figures are congruent? 2. How do we prove a statement is true about triangles, quadrilaterals, and other polygons? 3. How can we classify a quadrilateral by its properties?	G.2D.1.3 Apply theorems involving the interior and exterior angle sums of polygons and use them to solve real-world and mathematical problems using algebraic reasoning and proofs G.2D.1.4 Apply the properties of special quadrilaterals (square, rectangle, trapezoid, isosceles trapezoid, rhombus, kite, parallelogram) and use them to solve real-world and mathematical problems involving angle measures and segment lengths using algebraic reasoning and proofs G.2D.1.6 Apply the properties of polygons to solve real-world and mathematical problems involving perimeter and area (e.g., triangles, special quadrilaterals, regular polygons up to 12 sides, composite figures). G.2D.1.7 Apply the properties of congruent or similar polygons to solve real-world and mathematical problems using algebraic and logical reasoning. G.2D.1.8 Construct logical arguments to prove triangle congruence (SSS, SAS, ASA, AAS and HL) and triangle similarity (AA, SSS, SAS).	Daily Grades, Formative Assessment, FAL, and Summative Assessments

Unit 8 Similarity **Timing** 2-3 weeks **Objectives** G.2D.1.7* G.2D.1.8*	How do we know when two geometric figures are similar?	1. How do we know when two geometric figures are similar? 2. What relationships can be found between the angles and the sides of similar triangles/polygons? 3. How do we use similarity to prove relationships among figures or parts of figures?	1. Similar polygons are defined by their congruent angles and proportional sides. 2. Congruent corresponding angles and proportional corresponding sides are used to prove triangles are similar.	G.2D.1.7 Apply the properties of congruent or similar polygons to solve real-world and mathematical problems using algebraic and logical reasoning. G.2D.1.8 Construct logical arguments to prove triangle congruence (SSS, SAS, ASA, AAS and HL) and triangle similarity (AA, SSS, SAS).	Daily Grades, Formative Assessment, FAL, and Summative Assessments

Unit 9: Right Triangle Trigonometry **Timing** 2-3 weeks **Objective** G.RT.1.1 G.RT.1.2 G.RT.1.3 G.RT.1.4	What relationships exist between the sides of similar right triangles?	1. What relationships exist between the sides of similar right triangles? 2. What is the relationship between angles and sides of a right triangle?	1. Corresponding sides of similar triangles prove the Pythagorean Theorem is true for all right triangles. 2. Corresponding Sides of Special right triangles are proportional.	G.RT.1.1 Apply the distance formula and the Pythagorean Theorem and its converse to solve real-world and mathematical problems, as approximate and exact values, using algebraic and logical reasoning (include Pythagorean Triples). G.RT.1.2 Verify and apply properties of right triangles, including properties of 45-45-90 and 30-60-90 triangles, to solve problems using algebraic and logical reasoning. G.RT.1.3 Use the definition of the trigonometric functions to determine the sine, cosine, and tangent ratio of an acute angle in a right triangle. Apply the inverse trigonometric functions to find the measure of an acute angle in right triangles. G.RT.1.4 Apply the trigonometric functions as ratios (sine, cosine, and tangent) to find side lengths in right triangles in real-world and mathematical problems.	Daily Grades, Formative Assessment, FAL, and Summative Assessments

Unit 10: Area and 3 Dimensional Shapes **Timing** 3-4 Weeks **Objective** G.3D.1.1 G.3D.1.2	How can we expand our knowledge of Geometry to 3D Objects?	1. What are surface area and volume? 2. How do 3D similar figures compare/contrast to 2D similar figures? Chapter 7 and Chapter 10	1. 3 Dimensional figures have surface area. 2. 3 Dimensional figures have volume. 3. Ratios are formed by similar 3 dimensional figures.	G.3D.1.1 Solve real-world and mathematical problems using the surface area and volume of prisms, cylinders, pyramids, cones, spheres, and composites of these figures. Use nets, measuring devices, or formulas as appropriate. G.3D.1.2 Use ratios derived from similar three-dimensional figures to make conjectures, generalize, and to solve for unknown values such as angles, side lengths, perimeter or circumference of a face, area of a face, and volume.	Daily Grades, Formative Assessment, FAL, and Summative Assessments

Unit 11: Circles **Timing** 4-5 Weeks **Objective** G.C.1.1 G.C.1.2 G.C.1.3 G.C.1.4	What rules and properties can found in circles and how can they be applied to real world situations?	1. What is a circle and how can we find its equation?	1. A circle is uniquely defined in the coordinate plane using its center and radius.	G.C.1.1 Apply the properties of circles to solve problems involving circumference and area, approximate values and in terms of π using algebraic and logical reasoning.
		2. What are the parts of a circle?	2. There is a constant proportional relationship between an angle and its arc measures on a circle	G.C.1.2 Apply the properties of circles and relationships among angles; arcs; and distances in a circle among radii, chords, secants and tangents to solve problems using algebraic and logical reasoning.
		3. What relationships are formed by lines intersecting with, inside and outside the circles?	3. Congruence and similarity criteria prove relationships between segments and	G.C.1.3 Recognize and write the radius r, center (h, k), and standard form of the equation of a circle $(x - h)2 + (y - k)2 = r2$ with and without graphs.
				G.C.1.4 Apply the distance and midpoint formula, where appropriate, to develop the equation of a circle in standard form.

Unit 12: Transformations **Timing** 2 Weeks **Objectives** G.2D.1.9	How can we manipulate and move objects on the coordinate plane?	1. What are the different ways to map a polygon to a congruent polygon on a coordinate plane? 2. How can we change the size of a polygon without changing it's shape on a coordinate plane?	1. Corresponding parts of a polygon map to a congruent polygon under a rotation, reflection or translation. 2. Corresponding parts of a polygon map to a similar polygon under a dilation.	G.2D.1.9 Use numeric, graphic and algebraic representations of transformations in two dimensions, such as reflections, translations, dilations, and rotations about the origin by multiples of 90˚, to solve problems involving figures on a coordinate plane and identify types of symmetry.	Daily Grades, Formative Assessment, FAL, and Summative Assessments