Unit 2

Block 9 Days —

These standards expand in all Units of Geometry to reinforce real-world phenomena.

G.MM.1.1: Explain applicable, mathematical problems using a mathematical model.

G.MM.1.2: Create mathematical models to explain phenomena that exist in the natural sciences, social sciences, liberal arts, fine and performing arts, and/or humanities domains.

G.MM.1.3: Using abstract and quantitative reasoning, make decisions about information and data from a mathematically applicable situation.

G.MM.1.4: Use various mathematical representations and structures with this information to represent and solve real-life problems.

These 8 Mathematical Practices and the overarching Practice Standard are essential to the instruction in this unit.

G.MP: Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback. Set and monitor goals.

G.MP.1: Make sense of problems and persevere in solving them.

G.MP.2: Reason abstractly and quantitatively.

G.MP.3: Construct viable arguments and critique the reasoning of others.

G.MP.4: Model with mathematics.

G.MP.5: Use appropriate tools strategically.

G.MP.6: Attend to precision.

G.MP.7: Look for and make use of structure.

G.MP.8: Look for and express regularity in repeated reasoning.

Unit 2	**Course Name: Geometry** **Geometric Foundations, Constructions, Proof**	**Considerations or scaffolds for Support**
	Standard(s): **G.GSR.4.1; G.GSR.4.3; G.MM.1.4** Use the undefined notions of point, line, line segment, plane, distance along a line segment, and distance around a circular arc to develop and use precise definitions and symbolic notations to prove theorems and solve geometric problems. LT: o I am learning about the undefined terms in Geometry and their symbolic notations.	Scaffolding throughout the lesson and applications will be provided for rigor. Students will work in pairs for turn and talk.

	SC: o I understand the basic terms of geometry: point, line, plane, segment, arc, and angle. o I can model and explore real-life phenomena using basic terms in geometry. o I can use the definitions and symbolic notations of the basic terms in geometry. o I can read, write, use, and interpret symbolic notation for point, line, plane, segment, angle, circle, arc, perpendicular line, and parallel line. o I can apply the Segment Addition Postulate and the Angle Addition Postulate to solve real-life problems. Lesson/Activity: Guided notes IXL Skill Plan- Lines segments and rays (vocab)/ length of segments on number lines/ additive property of length/ angle vocabulary/ angle measures Delta Math- Segments on a Number Line Resources: Guided Notes, IXL, Delta Math, calculator, chromebook, vocabulary wall	Graphic organizers/foldables:

	Standard(s): **G.GSR.4.2, G.GSR.4.3, G.MM.1.4** Classify quadrilaterals in the coordinate plane by proving simple geometric theorems algebraically. LT: I am learning to classify quadrilaterals using algebra and the coordinate plane. SC: o I can use slope to classify quadrilaterals. o I can classify quadrilaterals as parallelograms, rectangles, rhombi, and squares using sides, angles, and diagonals. o I know the slope, distance, and midpoint formulas in the coordinate plane. o I can apply my knowledge of slope, distance, and midpoint formulas to classify quadrilaterals in the coordinate plane. Lesson/Activity: Guided Notes IXL skill plan- classify quadrilaterals on the coordinate plane (1,2,3,4) Resources: Guided Notes, IXL, Delta Math, calculator, chromebook, vocabulary wall	
	Standard(s): **G.GSR.4.2, G.MM.1.2, G.MM.1.3, G.MM.1.4** Classify quadrilaterals in the coordinate plane by proving simple geometric theorems algebraically. LT: I am learning to classify quadrilaterals using algebra and the coordinate plane. SC:	

	o I can use slope to classify quadrilaterals. o I can classify quadrilaterals as parallelograms, rectangles, rhombi, and squares using sides, angles, and diagonals. o I know the slope, distance, and midpoint formulas in the coordinate plane. o I can apply my knowledge of slope, distance, and midpoint formulas to classify quadrilaterals in the coordinate plane. Lesson/Activity: Guided Notes IXL skill plan- classify quadrilaterals on the coordinate plane (1,2,3,4) Resources: Guided Notes, IXL, Delta Math, calculator, chromebook, vocabulary wall	
	Standard(s): **G.GSR.4.1, G.GSR.4.3, G.GSR.4.4, G.MM.1.4** Slope, Mid-point, and Distance. LT: I am learning to classify quadrilaterals using algebra and the coordinate plane. SC: o I can use slope to classify quadrilaterals. o I know the slope, distance, and midpoint formulas in the coordinate plane. o I can apply my knowledge of slope, distance, and midpoint formulas to classify quadrilaterals in the coordinate plane. Lesson/Activity: Guided Notes IXL skill plan- Resources: Guided Notes, IXL, Delta Math, calculator, chromebook, vocabulary wall	

	Standard(s): **G.GSR.4.1, G.GSR.4.3, G.GSR.4.4, G.MM.1.4** Make formal geometric constructions with a variety of tools and methods. LT: I am learning to use a variety of tools and methods to make geometric constructions. SC: o I can use various tools to create various circle and line constructions. o I can copy a segment and angle. o I can bisect a segment and angle. o I can construct perpendicular lines and a perpendicular bisector. For a segment. o I can construct parallel lines given a line and a point not on the line. Lesson/Activity: Guided Notes IXL skill plan- constructions Resources: IXL, compass, ruler, string, parchment paper, calculator, chromebook, vocabulary wall	
	Standard(s): **G.GSR.4.3, G.GSR.4.4, G.GSR.4.5, G.MM.1.2, G.MM.1.4** Prove and apply theorems about lines and angles to solve problems. LT: I am learning about lines and angle theorems to solve problems. SC: o I can identify special pairs of angles: adjacent, vertical, complementary, supplementary, and linear pairs. o I can apply theorems to solve problems involving the special pairs of angles and perpendicular bisectors.	

	o I can prove relationships in geometric figures by applying geometric and algebraic reasoning. Lesson/Activity: Guided Notes IXL skill plan- Identify and find measures of: complementary, supplementary, vertical, adjacent, and congruent angles. Resources: Guided Notes, IXL, Delta Math, calculator, chromebook, vocabulary wall	
	Standard(s): **G.GSR.4.3, G.GSR.4.4, G.GSR.4.5, G.MM.1.2, G.MM.1.4** Prove and apply theorems about lines and angles to solve problems. LT: I am learning about lines and angle theorems to solve problems. SC: o I can identify special pairs of angles: vertical and linear pairs. o I can apply theorems to solve problems involving the special pairs of angles and perpendicular bisectors. o I can prove relationships in geometric figures by applying geometric and algebraic reasoning. Lesson/Activity: Guided Notes IXL skill plan- angle bisectors, perpendicular bisector theorem Resources: Guided Notes, IXL, Delta Math, calculator, chromebook, vocabulary wall	
	Standard(s): **G.GSR.4.3, G.GSR.4.4, G.GSR.4.5, G.MM.1.2, G.MM.1.4** Use geometric reasoning to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles.	

	LT: o I am learning about the Triangle Sum Theorem. o I am learning about the Exterior Angles Theorem for a triangle. o I am learning about parallel lines, transversals, and the angles these lines make. SC: o I can identify special pairs of angles: corresponding, alternate interior, alternate exterior, consecutive interior (same-side interior), and same-side exterior. o I can solve problems using postulates and theorems involving angles, parallel lines cut by a transversal, and triangles. Lesson/Activity: Resources: Guided Notes, IXL, Delta Math, calculator, chromebook, vocabulary wall	
	Standard(s): **G.GSR.4.5** Use geometric reasoning to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. LT: o I am learning about the Triangle Sum Theorem. o I am learning about the Exterior Angles Theorem for a triangle. o I am learning about parallel lines, transversals, and the angles these lines make. o I am learning about AA~ for triangles (Unit 4)? SC: o I can identify special pairs of angles: corresponding, alternate interior, alternate exterior, consecutive interior (same-side interior), and same-side exterior. o I can solve problems using postulates and theorems involving angles, parallel lines cut by a transversal, and triangles.	

	Lesson/Activity: Resources: Guided Notes, IXL, Delta Math, calculator, chromebook, vocabulary wall	
	Standards:G.GSR.4.1-5 Unit Test	