Geometry Advanced/GT
Year at a Glance (YAG)
2024-2025

First Semester		Second Semester	
1st Nine Weeks		**3rd Nine Weeks**	
TEKS			
G.2A, G.2B, G.4A, G.5A, G.5B, G.5C, G.6A	**Unit 1: Tools of Geometry** (10) Students will use basic geometric concepts and properties to solve problems. Students will identify and model points, lines and planes. Students will identify intersecting lines and planes. Students will distinguish between undefined terms, definitions, postulates, conjectures and theorems. Students will identify angle relationships.	G.2B, G.5A, G.6E	**Unit 6: Polygons** (7) Students will identify and name polygons. Students will find and use the sum of the measures of the interior angles of a polygon. Students will find and use the sum of the measures of the exterior angles of a polygon. Students will recognize and apply properties of quadrilaterals. Students will compare quadrilaterals.
G.1A, G.1G, G.4B, G.4C, G.5A, G.6A	**Unit 2: Reasoning and Proof** (8) Students will make conjectures and find counterexamples for statements. Students will analyze if-then statements, and write the converse, inverse and contrapositive of if-then statements. Students will use deductive reasoning to reach valid conclusions. Students will use algebra to write two-column proofs. Students will use properties of equality to write geometric proofs.	G.6D, G.7A, G.7B, G.8A, G.10B	**Unit 7: Similarity & Proportions** (7) Students will identify similar polygons and use ratios and proportions to solve problems. Students will identify similar triangles and use similar triangles to solve problems. Students will use proportional parts within triangles, and use proportional parts with parallel lines.
G.1A, G.1B, G.1D, G.1G, G.2B, G.2C, G.5A, G.5B, G.6A	**Unit 3: Lines and Transversals** (6) Students will identify and prove angle relationships that occur with parallel lines and a transversal. Students will find slopes of lines and use slope to identify parallel and perpendicular lines. Students will write an equation of a line given information about the graph. Students will solve problems by writing equations.	G.6D, G.9A, G.9B	**Unit 8: Right Triangles and Trigonometry** (8) Students will use the Pythagorean Theorem and the Converse of the Pythagorean Theorem. Students will apply the relationships in special right triangles 30,60, 90 and 45,45, 90 and the Pythagorean Theorem to solve problems. Students will determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric ratios Sine, Cosine, and Tangent to solve problems. Students will determine the values of trigonometric functions at the special angles and relate them in mathematical and real-world problems.
	RTI (1)		**RTI** (1) **Early Release** (1)

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2nd Nine Weeks		4th Nine Weeks	
TEKS			
G.5A, G.6B, G.6D	**Unit 4: Congruent Triangles** (9) Students will apply special relationships about the interior and exterior angles of triangles. Students will identify corresponding parts of congruent triangles and prove triangles congruent. Students will learn about the special properties of isosceles and equilateral triangles.	G.6D, G.9A, G.9B	**Unit 9: Circles** (10) Students will identify and use parts of circles. Students will solve problems involving circumference of circles. Students will learn the relationships between central angles, inscribed angles, arcs, and chords in circles. Students will apply properties of tangents and solve problems involving circumscribed polygons. Students will find measures of angles formed by lines intersecting inside a circle, on a circle or outside a circle.
G.5D, G.6A, G.5D, G.6D	**Unit 5: Triangle Relationships** (6) Students will verify, identify and use perpendicular bisectors, angle bisectors, medians and altitudes in triangles. Students will recognize and apply properties of inequalities to the measures of the angles of a triangle, and to the relationships between the angles and sides of a triangle. Students will use the Triangle Inequality Theorem to identify possible triangles, and to prove triangle relationships. Students will apply the Hinge Theorem or its converse to make comparisons in two triangles, and to prove triangle relationships.	G.5A, G.12A, G.12B, G.12D	**Unit 10: Area and Volume** (10) Students will find perimeters and areas of polygons. Students will apply the formula for the area of regular polygons to solve problems using appropriate units of measure. Students will find areas of circles, and areas of sectors of circles. Students will find areas of composite figures. Students will apply area formulas to solve application problems.
	PSAT (1) **Early dismissal** (1) **Review** (3) **Semester Exams** (4)	G.10B, G.11A, G.11B, G.12C	**RTI** (1) **EOC** (1) **Review** (3) **Semester Exams** (4)

Resources

1st Nine Weeks	2nd Nine Weeks	3rd Nine Weeks	4th Nine Weeks
All Things Geometry	All Things Geometry	All Things Geometry	All Things Geometry