Unit	Essential Skills
Name: Basics of Geometry **Quarter: 1st** **Length (Days): 10**	1. Understand and use the basic terms of geometry. 2. Sketch the intersection of lines and planes. 3. Use Segment postulates. 4. Use the distance formula to find length. 5. Use Angle Postulates. 6. Classify angles. 7. Apply the definition of segment bisector. 8. Apply the definition of angle bisector. 9. Identify vertical angles and linear pairs. 10. Identify complementary and supplementary angles. 11. Find the perimeter and area of common plane figures.
Name: Reasoning and Proof **Quarter: 1st** **Length (Days): 14**	1. Recognize and analyze a conditional statement. 2. Recognize and use definitions 3. Recognize and use bi-conditional statements. 4. Form conclusions by applying the laws of logic to true statements. 5. Use properties of algebra to complete algebraic proofs. 6. Use properties of length and measure with segments. 7. Justify statements about congruent segments 8. Write geometric proofs. 9. Use angle congruence properties. 10. Prove properties about special pairs of angles. 11.
Name: Perpendicular and Parallel Lines **Quarter: 1/2** **Length (Days): 20**	1. Identify relationships between lines. 2. Identify angles formed by transversals. 3. Prove results about perpendicular lines. 4. Prove and use results related to parallel lines and transversals. 5. Prove that two lines are parallel. 6. Use properties of parallel lines to solve problems. 7. Apply the properties of parallel lines to real-life situations. 8. Find slopes of lines and use slope to identify parallel lines in a coordinate plane. 9. Write equations of parallel lines in a coordinate plane. 10. Find slopes of lines and use slope to identify perpendicular lines in a coordinate plane. 11. Write equations of perpendicular lines in a coordinate plane.
Name: Congruent Triangles **Quarter: 2** **Length (Days): 20**	1. Classify triangles by their sides and angles. 2. Find angle measures in triangles. 3. Identify congruent figures and corresponding parts. 4. Prove that two triangles are congruent. 5. Prove that triangles are congruent using the SSS and SAS congruence postulates. 6. Prove that triangles are congruent using the ASA congruence Postulate and the AAS congruence theorem. 7. Use congruent triangles to plan and write proofs. 8. Use properties of isosceles and equilateral triangles. 9. Use properties of right triangles. 10. Place geometric figures in a coordinate plane. 11. Write a coordinate proof.
Name: Properties of Triangles **Quarter: 2/3** **Length (Days):**	1. Use properties of perpendicular bisectors. 2. Use properties of angle bisectors. 3. Circumscribe a triangle. 4. Inscribe a circle in a triangle. 5. Use properties of medians of a triangle. 6. Use properties of altitudes of a triangle. 7. Identify the midsegments of a triangle. 8. Use properties of the midsegment of a triangle. 9. Use angle measures of a triangle to order the sides of the triangle in terms of length. 10. Use triangle inequality. 11. Write indirect proofs. 12. Use the hinge theorem and its converse to compare side lengths and angle measures.
Name: Rotations **Quarter: 2** **Length (Days): 1**	1. Define rotations. 2. Use rotations to construct different types of triangles using Geometer's Sketchpad

Name: Quadrilaterals **Quarter: 2/3** **Length (Days): 20**	1. Identify, name and describe polygons. 2. Use the sum of the interior angles of a quadrilateral. 3. Use properties of parallelograms. 4. Prove that a quadrilateral is a parallelogram. 5. Use coordinate geometry with parallelograms. 6. Use properties of rectangles, rhombi, and squares. 7. Use properties of trapezoids. 8. Use properties of kites. 9. Identify special quadrilaterals based on limited information. 10. Prove that a quadrilateral is a special quadrilateral. 11. Find the areas of squares, rectangles, parallelograms, triangles, trapezoids, kites, and rhombi.
Name: Transformation **Quarter: 3** **Length (Days): 25**	1. Identify the three basic rigid transformations. 2. Identify and use reflections in a plane. 3. Identify relationships between reflections and line symmetry. 4. Identify rotations in a plane. 5. Use rotational symmetry. 6. Identify and use translations in the plane. 7. Use vectors to complete translations in the plane. 8. Identify glide reflections in a plane. 9. Represent transformations as compositions of simpler transformations.
Name: Similarity **Quarter: 4** **Length (Days): 16**	1. Find and simplify the ratio of two numbers. 2. Use properties of proportions. 3. Identify similar polygons 4. Identify similar triangles. 5. Prove two triangles are similar. 6. Use proportionality theorems to calculate segment lengths. 7. Identify dilations. 8. Use properties of dilations to find segment lengths.
Name: Right triangles and Trigonometry **Quarter: 4** **Length (Days): 14**	1. Solve problems involving similar right triangles formed by the altitude drawn to the hypotenuse of a right triangle. 2. Prove the Pythagorean Theorem. 3. Use the Pythagorean Theorem to solve problems. 4. Use the converse of the Pythagorean Theorem to solve problems. 5. Use side lengths to classify triangles by their angle measures. 6. Find the side lengths of special right triangles. 7. Find the sine, cosine, and tangent of an acute angle. 8. Solve right triangles. 9. Find the magnitude and the direction of a vector. 10. Add vectors.
Name: Circles **Quarter: 4** **Length (Days): 15**	1. Identify segments and lines related to circles. 2. Use properties of a line tangent to a circle. 3. Use properties of arcs of circles 4. Use properties of chords of circles. 5. Use properties of inscribed angles. 6. Use properties of chords in a circle. 7. Write and graph the equation of a circle.