Campbell County Schools
GEOMETRY
1st Nine Weeks

Mathematical Practices:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Common Core Coding Explanation:

Conceptual Category **Cluster** **Standard #**

Domains Examples:

SRT - Similarity, Right Triangles, and Trigonometry
CO - Congruence
GPE – Expressing Geometric Properties with Equations

Common Core State Standard	Aligned Tasks	Aligned Text	Suggested Pacing
			5 WEEKS
G.CO.C.12 - Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.			
G.CO.C.13 - Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.			

G.CO.A.1 - Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.			
G.CO.A.2 - Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).			
G.CO.A.3 - Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.			
G.CO.A.4 - Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.			
G.CO.A.5 - Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.			
G.CO.B.6 -Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.			

G.CO.B.7 - Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.			
G.CO.B.8 - Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.			
			2 WEEKS
G.CO.C.9 - Prove theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.			
G.CO.10 - Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.			
G.CO.C.11 - Prove theorems about parallelograms. Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.			
G.C.A.3 - Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle			

			2 WEEKS
G.SRT.A.1 - Verify experimentally the properties of dilations given by a center and a scale factor. a) G.SRT.A.1a - A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. b) G.SRT.A.1b - The dilation of a line segment is longer or shorter in the ratio given by the scale factor.			
G.SRT.A.2 - Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.			

G.SRT.A.3 - Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.			
G.SRT.B.4 - Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.			
G.SRT.B.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.			
G.SRT.C.6 - Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.			
G.SRT.C.7 - Explain and use the relationship between the sine and cosine of complementary angles.			
G.SRT.C.8 - Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.★			