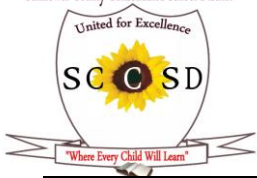| Term 1		
Unit 1: Geometric Transformations	**I Can Statement**	**Resources**
15 days G-CO.1. Know precise definitions of **angle**, circle, **perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line,** and distance around a circular arc.	• I can identify basic geometric shapes. • I can apply basic definitions of geometric shapes.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep ELS
G-CO.4. Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments. G-CO.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.	• I can apply geometric terminology to describe transformed geometric figures. • I can draw a transformed figure. • I can describe the sequence used in a given transformation.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep

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G-CO.3. Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	• I can describe the rotations and reflections of various geometric shapes. • I can model transformations of polygons using manipulative and technology	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/
G-CO.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).	• I can compute the output of a function when given the input. • I can identify similarities and differences in pre and post images of transformed figures.	http://my-test.hrw.com/index.jsp Classworks USA Test Prep ELS
G-CO.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.	• I can describe the movement of figures using rigid motions. • I can use rigid motions to determine if two figures are congruent.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep

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Unit 2: Angles and Lines		I Can Statement	Resources
15 days	G-CO.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.*	• I can use corresponding angles theorem to prove that if two lines are cut by a transversal, then the pairs of corresponding angles are congruent. • I can use alternate interior angles theorem to prove that if two lines are cut by a transversal, then the pairs of alternate interior angles are congruent. • I can use alternate exterior angles theorem to prove that if two lines are cut by a transversal, then the pairs of alternate exterior angles are congruent. • I can use same-side interior angles theorem to prove that if two lines are cut by a transversal, then the pairs of same-side interior angles are supplementary.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep ELS

		I Can Statement	Resources
	G-GPE.5. Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).	• I can identify that lines with the same slope are parallel. • I can identify that lines whose slopes are opposite reciprocals are perpendicular. • I can use point-slope formula and slope-intercept formula to find the equation of a line parallel or perpendicular to a given line and passing through a given point.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep ELS

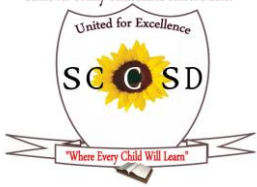| **Unit 3: Triangles**		**I Can Statement**	**Resources**
15 days	G-CO. 10. Prove theorems about triangles. ***Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent;*** *the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length;* ***the medians of a triangle meet at a point.***	• I can determine types of triangles using theorems. • I can prove that interior angles of a triangle equal 180 degrees. • I can recognize midpoints of two sides of a triangle are parallel to the third side and half the length. • I can determine medians of a triangle meet at a point.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep ELS

G-CO.13 **Construct an equilateral triangle**, a square, and a regular hexagon inscribed in a circle.	• I can understand and build equilateral triangles.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep ELS
G-CO. 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-C.3. **Construct the inscribed and circumscribed circles of a triangle**, and prove properties of angles for a quadrilateral inscribed in a circle.	• I can convert a formal geometric construction using a variety of tools. • I can describe a segment and an angle. • I can create perpendicular lines and a perpendicular bisector of a line. • I can choose and determine the circumscribed circles of a triangle, and prove the properties of angles.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep ELS

| | G-MG.1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). ★ | • I can recognize geometric shapes and measures to describe objects. | http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition

http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm

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Term 2		
Unit 4: Triangle Congruence	**I Can Statement**	**Resources**
15 days	G-CO.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.**	• I can describe the movement of figures using rigid motions. • I can use rigid motions to determine if two figures are congruent.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep ELS
	G-CO. 8. Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.	• I can describe triangle congruence in terms of rigid motions.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/

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			ELS
	G-CO.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.	• I can show that two triangles are congruent in terms of rigid motions.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition
			http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm
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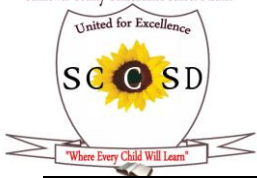| Unit 5: Similarity Transformations		I Can Statement	Resources
15 days	G-CO. 10. Prove theorems about triangles. ***Theorems include:*** *measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent;* ***the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length;*** *the medians of a triangle meet at a point.*	• I can determine types of triangles using theorems. • I can prove that interior angles of a triangle equal 180 degrees. • I can recognize midpoints of two sides of a triangle are parallel to the third side and half the length.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp

		• I can determine medians of a triangle meet at a point.	Classworks USA Test Prep ELS
	G-RST.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-RST.5. Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	• I can prove that a line parallel to one side of a triangle divides the other two proportionally. • I can justify the Pythagorean Theorem using triangle similarity. • I can justify that two triangles are congruent using similarity theorems. • I can prove various geometric figures are similar and/or congruent.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep ELS
	G-MG.3. Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).	• I can solve design problems using geometric formulas.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks

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G-SRT.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. G-SRT.1b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor. G-GPE.6. Find the point on a directed line segment between two given points that partitions the segment in a given ratio.	• I can understand how dilations affect lines and line segments. • I can understand that a dilation of a line segment can be longer or shorter. • I can find the distance between two points on a line.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep ELS
G-SRT.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.3. Use the properties of similarity transformations to establish	• I can determine if two figures in transformations are similar. • I can determine whether triangles are similar. • I can use the properties of transformations to determine if two triangles are similar.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep

	the AA criterion for two triangles to be similar.		ELS

Unit 6: Right Triangle Relationships and Trigonometry		I Can Statement	Resources
4 days	G-SRT.5. Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. G-SRT.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-MG.3. Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).★	• I can justify that two triangles are congruent using similarity theorems. • I can prove various geometric figures are similar and/or congruent. • I can show that the relationships of the side ratios are the same in similar right triangles. • I can solve design problems using geometric formulas.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep ELS

Term 3		
Unit 6: Right Triangle Relationships and Trigonometry	**I Can Statement**	**Resources**

15 days	G-SRT.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.	• I can name the sides of a right triangle.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition
			http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm
	G-SRT.7. Explain and use the relationship between the sine and cosine of complementary angles.	• I can recognize that if two right triangles have a pair of acute, congruent angles that the triangles are similar.	http://kutasoftware.com/ http://my-test.hrw.com/index.jsp
	G-SRT.8. Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.★		Classworks
		• I can compare common ratios for similar right triangles.	USA Test Prep
	G-MG.1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).★		ELS
		• I can develop a relationship between the ratio and the acute angles.	
		• I can use measures and properties of geometric shapes to describe real world objects.	
	G-GPE.7. Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.★	• I can solve for an unknown angle or side of a right triangle using sine, cosine, and tangent.	

Unit 7: Quadrilaterals	**I Can Statement**	**Resources**

| 15 days | G-CO.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-GPE.4. Use coordinates to prove simple geometric theorems algebraically. ***For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle;*** *prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).* | • I can explain theorems for various parallelograms involving opposite sides and angles and relate figures.

• I can explain theorems for various parallelograms involving diagonals and relate to figures. | http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition

http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm

http://kutasoftware.com/

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ELS |

Unit 8: Circles		**I Can Statement**	**Resources**
15 days	G-CO.13 **Construct** an equilateral triangle**, a square, and a regular hexagon inscribed in a circle.** G-C.1. Prove that all circles are similar. G-C.2. Identify and describe relationships among inscribed angles, radii, and chords. *Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is*	• I can recognize when figures are similar. • I can compare the ratio of the circumference to the diameter. • I can identify inscribed angles, radii, chords, central angles, circumscribed angles, diameters, and tangent.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep

		ELS
perpendicular to the tangent where the radius intersects the circle. G-C.3. Construct the inscribed and circumscribed circles of a triangle, and **prove properties of angles for a quadrilateral inscribed in a circle**. G-C.5. Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector. G.GPE. 1. Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation. G-GPE.4. Use coordinates to prove simple geometric theorems algebraically. *For example, prove or disprove that a figure defined by four given points in the coordinate plane is a rectangle; prove or disprove that the point (1, √3) lies on the circle centered at the origin and containing the point (0, 2).* G-GMD.1 **Give an informal argument for the formulas for the circumference of a circle, area of a circle**, volume of a cylinder, pyramid, and cone. *Use dissection arguments,*	• I can recognize that inscribed angles on a diameter are right angles. • I can recognize that radius of a circle is perpendicular to the radius at the point of tangency. • I can define inscribed and circumscribed circles of a triangle. • I can construct inscribed and circumscribed circles o a triangle. • I can use coordinates to prove simple geometric theorems algebraically. • I can recognize formulas for area and circumference of a circle and volume of a cylinder, pyramid, and cone. • I can apply Cavalieri's principle for the volume of a cylinder, pyramid, and cone.	

		I Can Statement	Resources
	Cavalieri's principle, and informal limit arguments. G-MG.1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). ★	• I can use measures and properties of geometric shapes to describe real world objects.	

Unit 9: Geometric Modeling in Two Dimensions		I Can Statement	Resources
10 days	G-MG.1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). ★ G-MG.2 Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).★ G-MG.3. Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).★	• I can, given a real world object, classify the object as a known geometric shape. • I can define density. • I can apply concepts of density based on area and volume. • I can describe typographical grid system	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep ELS

Term 4		
Unit 10: Trigonometric Functions	**I Can Statement**	**Resources**
20 days	G-GMD.1 **Give an informal argument for the formulas** for the circumference of a circle, area of a circle, **volume of a cylinder, pyramid, and cone.** *Use dissection arguments, Cavalieri's principle, and informal limit arguments*. G-GMD.3. Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.★ G-GMD.4. Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects. G-MG.1. Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).★ G-MG.2 Apply concepts of density based on volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).★	• I can apply dissection and limit arguments. • I can utilize appropriate formula for volume depending on the figure. • I can use strategies to help visualize relationships between two-dimensional and three-dimensional shapes. • I can, given a real world object, classify the object as a known geometric shape. • I can define density.	http://www.virtualnerd.com/geometry/fundamentals/points-lines-planes/point-definition http://www.regentsprep.org/Regents/math/geometry/math-GEOMETRY.htm http://kutasoftware.com/ http://my-test.hrw.com/index.jsp Classworks USA Test Prep ELS

	G-MG.3. Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).★	• I can apply concepts of density based on area and volume. • I can describe typographical grid system	