Geometric Properties and Reasoning			
Big Idea **G.1.1** Properties of Circles, Spheres, and Cylinders			
G.1.1.1 Identify and/or use parts of circles and segments associated with circles, spheres, and cylinders.		How can we apply properties of circles, spheres, cylinders?	
Concepts	**Competencies**	**Resources**	**Assessments**
G.1.1.1.1 Identify, determine, and/or use the radius, diameter, segment, and/or tangent of a circle. **G.1.1.1.2** Identify, determine, and/or use the arcs, semicircles, sectors, and/or angles of a circle. **G.1.1.1.3** Use chords, tangents, and secants to find missing arc measures or missing segment measures. **G.1.1.1.4** Identify and/or use the properties of a sphere or cylinder.	**CC.2.3.HS.A.8** Apply geometric theorems to verify properties of circles. **CC.2.3.HS.A.9** Extend the concept of similarity to determine arc lengths and areas of sectors of circles. **CC.2.3.HS.A.13** Analyze relationships between two-dimensional and three-dimensional objects.	**Big Ideas Geometry Textbook** **Chapter 10** **Chapter 11**	District Created Curriculum based assessment
Vocabulary- radius, diameter, segment, tangent, chord, arcs, semicircles, sectors, secant			

Geometric Properties and Reasoning			
Big Idea **G.1.2** Properties of Polygons and Polyhedra			
G.1.2.1 Recognize and/or apply properties of angles, polygons, and polyhedra.		How can we properties of a shape to classify a polygon?	
Concepts	**Competencies**	**Resources**	**Assessments**
G.1.2.1.1 Identify and/or use properties of triangles. **G.1.2.1.2** Identify and/or use properties of quadrilaterals. **G.1.2.1.3** Identify and/or use	**CC.2.3.8.A.2** Understand and apply congruence, similarity, and geometric transformations using various tools.	**Big Ideas Geometry Textbook** **Chapter 5** **Chapter 6** **Chapter 7**	District Created Curriculum based assessment

properties of isosceles and equilateral triangles. **G.1.2.1.4** Identify and/or use properties of regular polygons. **G.1.2.1.5** Identify and/or use properties of pyramids and prisms.	**CC.2.3.HS.A.3** Verify and apply geometric theorems as they relate to geometric figures. **CC.2.3.HS.A.13** Analyze relationships between two-dimensional and three-dimensional objects.		
Vocabulary- Obtuse, right, acute, equiangular, equilateral, scalene, isosceles, parallelogram, trapezoid, rectangle, square, rhombus, kite, diagonal, base angles, exterior angles, interior angles			

Geometric Properties and Reasoning			
Big Idea **G.1.3** Congruence, Similarity, and Proofs			
G.1.3.1 Use properties of congruence, correspondence, and similarity in problem-solving settings involving two- and three-dimensional figures.		How can we use properties of polygons to determine if they are similar or congruent?	
Concepts	**Competencies**	**Resources**	**Assessments**
G.1.3.1.1 Identify and/or use properties of congruent and similar polygons or solids. **G.1.3.1.2** Identify and/or use proportional relationships in similar figures.	**CC.2.3.HS.A.1** Use geometric figures and their properties to represent transformations in the plane. **CC.2.3.HS.A.2** Apply rigid transformations to determine and explain congruence. **CC.2.3.HS.A.5** Create justifications based on transformations to establish similarity of plane figures. **CC.2.3.HS.A.6** Verify and apply theorems involving similarity as they relate	**Big Ideas Geometry Textbook** **Chapter 5** **Chapter 8**	District Created Curriculum based assessment

	to plane figures.		
Vocabulary- congruent, corresponding parts, included angle, included side, side-side-side, side-angle-side, angle-side-angle, angle-angle-side, hypotenuse-leg, corresponding parts of congruent triangles are congruent(CPCTC), proportional, ratio, scale			

Geometric Properties and Reasoning			
Big Idea **G.1.3** Congruence, Similarity, and Proofs			
G.1.3.2 Write formal proofs and/or use logic statements to construct or validate arguments.		How can we use deductive reasoning to verify geometric properties?	
Concepts	**Competencies**	**Resources**	**Assessments**
G.1.3.2.1 Write, analyze, complete, or identify formal proofs (e.g., direct and/or indirect proofs/proofs by contradiction).	**CC.2.2.HS.C.9** Prove the Pythagorean identity and use it to calculate trigonometric ratios. **CC.2.3.HS.A.3** Verify and apply geometric theorems as they relate to geometric figures. **CC.2.3.HS.A.6** Verify and apply theorems involving similarity as they relate to plane figures. **CC.2.3.HS.A.8** Apply geometric theorems to verify properties of circles.	**Big Ideas Geometry Textbook** **Chapter 2** **Chapter 5**	District Created Curriculum based assessment
Vocabulary- deductive reasoning, theorem, postulate, two column proof			

Coordinate Geometry and Measurement			
Big Idea **G.2.1** Coordinate Geometry and Right Triangles			
G.2.1.1 Solve problems involving right triangles.		How can we determine measurements of angles and sides within a right triangle?	
Concepts	**Competencies**	**Resources**	**Assessments**
G.2.1.1.1 Use the Pythagorean theorem to write and/or solve problems involving right triangles. **G.2.1.1.2** Use trigonometric ratios to write and/or solve problems involving right triangles.	**CC.2.2.HS.C.9** Prove the Pythagorean identity and use it to calculate trigonometric ratios. **CC.2.3.HS.A.7** Apply trigonometric ratios to solve problems involving right triangles.	**Big Ideas Geometry Textbook** **Chapter 9**	District Created Curriculum based assessment
Vocabulary- Pythagorean theorem, hypotenuse, leg, 30-60-90, 45-45-90, isosceles right triangle, sine, cosine, tangent			

Coordinate Geometry and Measurement			
Big Idea **G.2.1** Coordinate Geometry and Right Triangles			
G.2.1.2 Solve problems using analytic geometry.		How can we apply geometric properties and formulas to solve problems on a coordinate plane?	
Concepts	**Competencies**	**Resources**	**Assessments**
G.2.1.2.1 Calculate the distance and/or midpoint between two points on a number line or on a coordinate plane. **G.2.1.2.2** Relate slope to perpendicularity and/or parallelism (limit to linear algebraic equations). **G.2.1.2.3** Use slope, distance, and/or midpoint between two	**CC.2.3.8.A.3** Understand and apply the Pythagorean theorem to solve problems. **CC.2.3.HS.A.11** Apply coordinate geometry to prove simple geometric theorems algebraically.	**Big Ideas Geometry Textbook** **Chapter 1** **Chapter 3**	District Created Curriculum based assessment

points on a coordinate plane to establish properties of a two-dimensional shape.			
Vocabulary- slope, distance, midpoint, perpendicular, parallel, negative(opposite) reciprocal			

Coordinate Geometry and Measurement			
Big Idea **G.2.2:** Measurements of Two-Dimensional Shapes and Figures			
G.2.2.1: Use and/or compare measurements of angles.		How can we apply properties of angle pairs to determine measurement?	
Concepts	**Competencies**	**Resources**	**Assessments**
G.2.2.1.1 Use properties of angles formed by intersecting lines to find the measures of missing angles. **G.2.2.1.2** Use properties of angles formed when two parallel lines are cut by a transversal to find the measures of missing angles.	**CC.2.3.8.A.2** Understand and apply congruence, similarity, and geometric transformations using various tools. **CC.2.3.HS.A.3** Verify and apply geometric theorems as they relate to geometric figures.	**Big Ideas Geometry Textbook Chapter 3**	District Created Curriculum based assessment
Vocabulary- Vertical angles, linear pair, supplementary, transversal, corresponding, alternate interior, alternated exterior, same side interior, same side exterior			

Coordinate Geometry and Measurement			
Big Idea **G.2.2:** Measurements of Two-Dimensional Shapes and Figures			
G.2.2.2: Use and/or develop procedures to determine or describe measures of perimeter, circumference, and/or area. (May require conversions within the same system.)		How can we use geometric formulas to determine perimeter, circumference and area of two-dimensional figures?	
Concepts	**Competencies**	**Resources**	**Assessments**

G.2.2.2.1 Estimate area, perimeter, or circumference of an irregular figure. **G.2.2.2.2** Find the measurement of a missing length, given the perimeter, circumference, or area. **G.2.2.2.3** Find the side lengths of a polygon with a given perimeter to maximize the area of the polygon. **G.2.2.2.4** Develop and/or use strategies to estimate the area of a compound/composite figure. **G.2.2.2.5** Find the area of a sector of a circle.	**CC.2.2.HS.C.1** Use the concept and notation of functions to interpret and apply them in terms of their context. **CC.2.3.HS.A.3** Verify and apply geometric theorems as they relate to geometric figures. **CC.2.3.HS.A.9** Extend the concept of similarity to determine arc lengths and areas of sectors of circles.	**Big Ideas Geometry Textbook Chapter 11**	District Created Curriculum based assessment
Vocabulary- Perimeter, circumference, area, composite figure, sector			

Coordinate Geometry and Measurement			
Big Idea **G.2.2:** Measurements of Two-Dimensional Shapes and Figures			
G.2.2.3 Describe how a change in one dimension of a two-dimensional figure affects other measurements of that figure.		How does a change in dimension affect perimeter, circumference, and area of a two-dimensional figure?	
Concepts	**Competencies**	**Resources**	**Assessments**
G.2.2.3.1 Describe how a change in the linear dimension of a figure affects its perimeter, circumference, and area (e.g., How does changing the length of the radius of a circle affect the circumference of the circle?).	**CC.2.3.HS.A.8** Apply geometric theorems to verify properties of circles. **CC.2.3.HS.A.9** Extend the concept of similarity to determine arc lengths and areas of sectors of circles.	**Big Ideas Geometry Textbook Chapter 11**	District Created Curriculum based assessment

Vocabulary- sector, arc length

Coordinate Geometry and Measurement			
Big Idea **G.2.2:** Measurements of Two-Dimensional Shapes and Figures			
G.2.2.4 Apply probability to practical situations.		How can we apply probability to geometric situations?	
Concepts	**Competencies**	**Resources**	**Assessments**
G.2.2.4.1 Use area models to find probabilities.	**CC.2.3.HS.A.14** Apply geometric concepts to model and solve real-world problems.	**Big Ideas Geometry Textbook Chapter 12**	District Created Curriculum based assessment
Vocabulary- probability			

Coordinate Geometry and Measurement			
Big Idea **G.2.3** Measurements of Three-Dimensional Shapes and Figures			
G.2.3.1 Use and/or develop procedures to determine or describe measures of surface area and/or volume. (May require conversions within the same system.)		How can we apply geometric formulas to determine the surface area and volume of three-dimensional figures?	
Concepts	**Competencies**	**Resources**	**Assessments**
G.2.3.1.1 Calculate the surface area of prisms, cylinders, cones, pyramids, and/or spheres. Formulas are provided on a reference sheet. **G.2.3.1.2** Calculate the volume of prisms, cylinders, cones, pyramids, and/or spheres.	**CC.2.3.8.A.1** Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems. **CC.2.3.HS.A.12** Explain volume formulas and use them to solve problems.	**Big Ideas Geometry Textbook Chapter 11**	District Created Curriculum based assessment

Formulas are provided on a reference sheet. **G.2.3.1.3** Find the measurement of a missing length given the surface area or volume.	**CC.2.3.HS.A.14** Apply geometric concepts to model and solve real-world problems.		
Vocabulary- Prism, cylinder, cone, pyramids, spheres, slant height, surface area, volume			

Coordinate Geometry and Measurement			
Big Idea **G.2.3** Measurements of Three-Dimensional Shapes and Figures			
G.2.3.2 Describe how a change in one dimension of a three-dimensional figure affects other measurements of that figure.		How does a change in dimension affect perimeter, circumference, and area of a three-dimensional figure?	
Concepts	**Competencies**	**Resources**	**Assessments**
G.2.3.2.1 Describe how a change in the linear dimension of a figure affects its surface area or volume (e.g., How does changing the length of the edge of a cube affect the volume of the cube?).	**CC.2.3.HS.A.13** Analyze relationships between two-dimensional and three-dimensional objects.	**Big Ideas Geometry Textbook Chapter 11**	District Created Curriculum based assessment
Vocabulary- surface area, volume			