

**Unit 1**

**Tools of Geometry**

<b>Duration</b>		<b>15-18 days (August-September)</b>	<b>Assessed</b>
<b>Priority Standard(s)</b>	G.CO.C.8	Prove theorems about lines and angles.	
	G.GPE.B.3	Use coordinates to prove geometric theorems algebraically.	
<b>Supporting Standard(s)</b>	G.CO.A.1	Define angle, circle, perpendicular line, parallel line, line segment and ray based on the undefined notions of point, line, distance along a line and distance around a circular arc.	
	G.GPE.B.5	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.	

**Unit 2**

**Angle Relationships**

<b>Duration</b>		<b>15-20 days (September-October)</b>	<b>Assessed</b>
<b>Priority Standard(s)</b>	G.GPE.B.3	Use coordinates to prove geometric theorems algebraically.	
	G.GPE.B.4	Prove the slope criteria for parallel and perpendicular lines and use them to solve problems.	
<b>Supporting Standard(s)</b>	G.CO.C.8	Prove theorems about lines and angles.	
	G.MG.A.3	Apply geometric methods to solve design mathematical modeling problems.	

## Unit 3

## Triangle Congruency

Duration		15-17 days (October)	Assessed
Priority Standard(s)	G.CO.B.7	Develop the criteria for triangle congruence from the definition of congruence in terms of rigid motions.	
	G.CO.C.9	Prove theorems about triangles.	
Supporting Standard(s)	G.CO.B.6	Develop the definition of congruence in terms of rigid motions.	
	G.CO.D.11	Make geometric constructions.	
	G.CO.C.8	Prove theorems about lines and angles.	

## Unit 4

## Transformations

Duration	15-17 days (November)		Assessed
Priority Standard(s)	G.CO.A.2	Represent transformations in the plane, and describe them as functions that take points in the plane as inputs and give other points as outputs.	
	G.CO.A.5	Demonstrate the ability to rotate, reflect or translate a figure, and determine a possible sequence of transformations between two congruent figures.	
Supporting Standard(s)	G.CO.A.3	Describe the rotational symmetry and lines of symmetry of two-dimensional figures.	
	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.B.6	Develop the definition of congruence in terms of rigid motions.	
	G.C.A.1	Prove that all circles are similar using similarity transformations.	

## Unit 5

## Similarity and Proportions

<b>Duration</b>		<b>15-16 days (Nov.-December)</b>	<b>Assessed</b>
<b>Priority Standard(s)</b>	G.SRT.A.1	Construct and analyze scale changes of geometric figures.	
	G.SRT.A.2	Use the definition of similarity to decide if figures are similar and to solve problems involving similar figures.	
	G.SRT.B.4	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	
<b>Supporting Standard(s)</b>	G.CO.C.8	Prove theorems about lines and angles.	
	G.SRT.A.3	Understand similarity in terms of similarity transformations.	

**Unit 6**  
**Polygons**

Duration	15-17 days (January)		Assessed
<b>Priority Standard(s)</b>	G.GPE.B.3	Use coordinates to prove geometric theorems algebraically.	
	G.CO.C.10	Prove theorems about polygons.	
	G.GMD.A.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.	
	G.MG.A.1	Apply geometric concepts in modeling situations.	
<b>Supporting Standard(s)</b>	G.SRT.B.4	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	

## Unit 7

## Right Triangle Relationships

Duration		13-15 days (Feb.)	Assessed
Priority Standard(s)	G.CO.C.9	Prove theorems about triangles.	
	G.SRT.C.7	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles.	
Supporting Standard(s)	G.SRT.C.5	Understand that side ratios in right triangles define the trigonometric ratios for acute angles.	
	G.SRT.C.6	Explain and use the relationship between the sine and cosine of complementary angles.	
	G.SRT.C.8	Derive the formula $A = \frac{1}{2} ab \sin(C)$ for the area of a triangle.	

## Unit 8

## 2D &amp; 3D Figures

Duration	15-17 days (March)		Assessed
Priority Standard(s)	G.GMD.A.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.	
	G.GMD.A.2	Use volume formulas for cylinders, pyramids, cones, spheres and composite figures to solve problems.	
Supporting Standard(s)	G.GPE.B.6	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles.	
	G.GMD.B.3	Identify the shapes of two-dimensional cross-sections of three-dimensional objects.	
	G.GMD.B.4	Identify three-dimensional objects generated by transformations of two-dimensional objects.	
	G.MG.A.2	Apply concepts of density based on area and volume in modeling situations.	
	7.GM.B.6a	Understand the relationship between area, surface area and volume. Find the area of triangles, quadrilaterals and other polygons composed of triangles and rectangles.	
	7.GM.B.6b	Understand the relationship between area, surface area and volume. Find the volume and surface area of prisms, pyramids and cylinders.	



**Unit 9**  
**Circles**

Duration	15-17 days (April)		Assessed
<b>Priority Standard(s)</b>	G.C.A.2	Identify and describe relationships among inscribed angles, radii and chords of circles.	
	G.GPE.A.1	Derive the equation of a circle.	
<b>Supporting Standard(s)</b>	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.	
	G.C.B.4	Derive the formula for the length of an arc of a circle.	
	G.C.B.5	Derive the formula for the area of a sector of a circle.	
	G.GPE.A.2	Derive the equation of a parabola given a focus and directrix.	

**Unit 10**  
**Statistics**

Duration	15-17 days (May)		Assessed
<b>Priority Standard(s)</b>	G.CP.A.2	Understand the definition of independent events and use it to solve problems.	
	G.CP.A.6	Apply and interpret the Addition Rule for calculating probabilities.	
	G.CP.A.7	Apply and Interpret the general Multiplication Rule in a uniform probability model.	
	G.CP.A.8	Use permutations and combinations to solve problems.	
<b>Supporting Standard(s)</b>	G.CP.A.1	Describe events as subsets of a sample space using characteristics of the outcomes, or as unions, intersections or complements of other events.	
	G.CP.A.3	Calculate conditional probabilities of events.	
	G.CP.A.4	Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities.	
	G.CP.A.5	Recognize and explain the concepts of conditional probability and independence in a context.	