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JC Schools Geometry Yearly Math Standards

Units	Priority Standards	Supporting Standards
Unit 1 Fundamentals of Geometry **Year-Long** 23 days **Blocked (fall)** 11 days	**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.CO.C.8** Prove theorems about lines and angles	**G.CO.D.11** Construct geometric figures using various tools and methods
Unit 2 Transformations **Year-Long** 17 days **Blocked (spring)** 9 days	**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** Demonstrate the ability to rotate, reflect or translate a figure, and determine a possible sequence of transformations between two congruent figures	**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.3** Describe the rotational symmetry and lines of symmetry of two dimensional figures **G.CO.B.6** Develop the definition of congruence in terms of rigid motions
Unit 3	**G.CO.C.9** Prove theorems about triangles	**G.CO.B.6** Develop the definition of congruence in terms of rigid motion

Triangles and Triangle Congruence **Year-Long** 20 days **Blocked (spring)** 9 days	**G.CO.B.7** Develop the criteria for triangle congruence from the definition of congruence in terms of rigid motions **G.SRT.B.4** Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures	
Unit 4 Coordinate Geometry **Year-Long** 18 days **Blocked (spring)** 9 days	**G.CO.C.10** Prove theorems about polygons **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 **G.GPE.B.5** Find the point on a directed line segment between two given points that partitions the segment in a given ratio **G.GPE.B.6** Use coordinates to compute perimeters of polygons and areas of triangles and rectangles **G.GPE.A.1** Derive the equation of a circle
Unit 5 Right Triangles, Trig, and 2-Dimensional Geometry **Year-Long** 23 days	**G.SRT.B.4** Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures **G.SRT.C.5** Understand that side ratios in right triangles define the trigonometric ratios for acute angles	**G.GPE.B.6** Use coordinates to compute perimeters of polygons and areas of triangles and rectangles **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

Blocked (spring) 12 days	**G.SRT.C.7** Use trigonometric ratios and the Pythagorean Theorem to solve right triangles	**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 = 1/2 ab sin(C) for the area of a triangle
Unit 6 3-Dimensional Geometry **Year-Long** 17 days **Blocked (spring)** 8 days	**G.GMD.A.2** Use volume formulas for cylinders, pyramids, cones, spheres and composite figures to solve problems **G.MG.A.3** Apply geometric methods to solve design mathematical modeling problems	**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.B.3** Identify the shapes of two-dimensional cross-sections of three dimensional objects **G.GMD.B.4** Identify three-dimensional objects generated by rotations of two-dimensional objects **G.MG.A.1** Use geometric shapes, their measures and their properties to describe objects. **G.MG.A.2** Apply concepts of density based on area and volume in modeling situations
Unit 7 Similarity **Year-Long** 14 days **Blocked (spring)** 8 days	**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	**G.C.A.1** Prove that all circles are similar using similarity transformations **G.SRT.A.3** Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar **G.SRT.A.1** Construct and analyze scale changes of geometric figures

Unit 8 Probability **Year-Long** 16 days **Blocked (spring)** 6 days	**G.CP.A.2** Understand the definition of independent events and use it to solve problems **G.CP.A.3** Calculate conditional probabilities of events **G.CP.A.5** Recognize and explain the concepts of conditional probability and independence in a context	**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.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.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
Unit 9 Circles **Year-Long** 14 days **Blocked (spring)** 6 days	**G.C.A.2** Identify and describe relationships among inscribed angles, radii and chords of circles **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
***The following standard is taught in Math Analysis/Trigonometry--not in Geometry* *G.GPE.A.2 Derive the equation of a parabola given a focus and directrix*		