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JC Schools Geometry Yearly Math Standards

Units	Priority Standards	Supporting Standards
Unit 1 Fundamentals of Geometry 23 days **Unit End Date:** Sept. 23 **Unit Assessment Window:** Sept. 16-30 Blocked (fall) **Unit End Date:** Sept. 8 **Unit Assessment Window:** Aug. 31-Sept. 15	**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 17 days **Unit End Date:** Oct. 19 **Unit Assessment Window:** Oct. 12-26	**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

Blocked (fall) **Unit End Date:** Sept. 21 **Unit Assessment Window:** Sept. 14-28		
Unit 3 Triangles and Triangle Congruence 20 days **Unit End Date:** Nov. 17 **Unit Assessment Window:** Nov. 10-30 Blocked (fall) **Unit End Date:** Oct. 5 **Unit Assessment Window:** Sept. 28-Oct. 13	**G.CO.C.9** Prove theorems about triangles **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	**G.CO.B.6** Develop the definition of congruence in terms of rigid motion
Unit 4 Coordinate Geometry 18 days **Unit End Date:** Dec. 16 **Unit Assessment Window**:Dec. 9-Jan. 6 Blocked (fall) **Unit End Date:** Oct. 19 **Unit Assessment Window:** Oct. 12-26	**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 23 days **Unit End Date:** Feb. 2 **Unit Assessment Window:** Jan. 26-Feb. 9 Blocked (fall) **Unit End Date:** Nov. 5 **Unit Assessment Window:** Oct. 28-Nov. 12	**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.SRT.C.7** Use trigonometric ratios and the Pythagorean Theorem to solve right triangles	**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 **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 17 days **Unit End Date:** Feb. 28 **Unit Assessment Window:** Feb. 18-March 7 Blocked (fall) **Unit End Date:** Nov. 17 **Unit Assessment Window:** Nov. 10-30	**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 14 days **Unit End Date:** March 18 **Unit Assessment Window:** March 11-25 Blocked (fall) **Unit End Date:** Dec. 1 **Unit Assessment Window:** Nov. 19-Dec. 8	**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 16 days **Unit End Date:** April 18 **Unit Assessment Window:** April 11-25 Blocked (fall) **Unit End Date:** Dec. 13 **Unit Assessment Window:** Dec. 6- 17	**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 14 days **Unit End Date:** May 6 **Unit Assessment Window:** Apr. 29-May 13 Blocked (fall) **Unit End Date:** Jan. 5 **Unit Assessment Window:** Dec. 15-Jan. 7	**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*		