Standard ID	Standard Text	Edgenuity Lesson Name
G	**Geometry**	
G-CO	**Congruence**	
G-CO.A	Experiment with transformations in the plane	
G-CO.A.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.	
		Bisectors and Congruence Euclidean and Non-Euclidean Geometries Interactive: Angle Constructions Introduction to Circles Measuring Angles Measuring Length Parallel Lines and Angles Project: Frieze Patterns Proving Lines Parallel Trapezoids and Kites
G-CO.A.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).	
		Compositions Dilations Introduction to Transformations Project: Frieze Patterns Reflections Rotations Translations
G-CO.A.3	Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.	
		Symmetry

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G-CO.A.4	Develop definitions of rotations, reflections and translations in terms of angles, circles, perpendicular lines, parallel lines and line segments.	
		Compositions Project: Frieze Patterns Reflections Rotations Translations
G-CO.A.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.	
		Compositions Dilations Project: Frieze Patterns Reflections Rotations Translations
G-CO.B	Understand congruence in terms of rigid motions	
G-CO.B.6	Use geometric descriptions of rigid motions to transform figures and to predict the effect of a rigid motion on a figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.	
		Congruence in Right Triangles Congruent Figures Using Congruent Triangles: CPCTC
G-CO.B.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.	
		Congruence in Right Triangles Congruent Figures Using Congruent Triangles: CPCTC
G-CO.B.8	Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence.	
		Congruence in Right Triangles Triangle Congruence: ASA Postulate and AAS Theorem Triangle Congruence: SAS Postulate and SSS Postulate Using Congruent Triangles: CPCTC

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G-CO.C.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.	Bisectors in a Triangle Classifying Quadrilaterals Congruent Angle Pairs Interactive: Angle Constructions Interactive: Proof Basics Interactive: Proving Angles Proving Lines Parallel Special Angle Pairs Trapezoids and Kites
G-CO.C	Prove geometric theorems	
G-CO.C.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.	Bisectors in a Triangle Interactive: Proving Triangles Isosceles Triangles Medians and Altitudes of a Midsegments of a Triangle Properties of Triangles Triangle Congruence: ASA Postulate and AAS Theorem Triangle Congruence: SAS Postulate and SSS Postulate
G-CO.C.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, rectangle are parallelograms with congruent diagonals.	Classifying Quadrilaterals Interactive: Proving Special Parallelograms Proving a Quadrilateral Is a Parallelogram Special Parallelograms

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G-CO.D	Make geometric constructions	
G-CO.D.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.	Interactive: Circle Constructions Interactive: Five Basic
G-CO.D.13	Construct an equilateral triangle, a square and a regular hexagon inscribed in a circle.	Interactive: Circle Constructions
G-SRT	**Similarity, Right Triangles, and Trigonometry**	
G-SRT.A	Understand similarity in terms of similarity transformations	
G-SRT.A.1	Verify experimentally the properties of dilations given by a center and a scale factor:	
G-SRT.A.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.	Dilations
G-SRT.A.1b	The dilation of a line segment is longer or shorter in the ratio given by the scale factor.	Dilations
G-SRT.A.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.	Interactive: Proving Triangles Similar Polygons Similar Triangles
G-SRT.A.3	Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.	Interactive: Proving Triangles
G-SRT.B	Prove theorems involving similarity	
G-SRT.B.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.	Right Triangle Similarity

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G-SRT.B.5	Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.	
		Congruence in Right Triangles
		Interactive: Proving Congruency Using CPCTC
		Interactive: Proving Triangles
		Perimeter and Area of Similar
		Right Triangle Similarity
		Similar Triangles
		Special Segments and Proportions
		Triangle Congruence: ASA Postulate and AAS Theorem
		Triangle Congruence: SAS Postulate and SSS Postulate
		Using Congruent Triangles: CPCTC
G-SRT.C	Define trigonometric ratios and solve problems involving right triangles	
G-SRT.C.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.	
		Trigonometric Ratios
G-SRT.C.7	Explain and use the relationship between the sine and cosine of complementary angles.	
		Trigonometric Ratios
G-SRT.C.8	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.	
		Angles of Elevation and Depression
		Pythagorean Theorem
		Solving Right Triangles
		Special Right Triangles
G-SRT.D	Apply trigonometry to general triangles	
G-SRT.D.9	(+) Derive the formula A = 1/2 ab sin(C) for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.	
		Trigonometric Area Formulas
G-SRT.D.10	(+) Prove the Laws of Sines and Cosines and use them to solve problems.	
		Law of Cosines
		Law of Sines

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G-SRT.D.11	(+) Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).	Law of Cosines Law of Sines
G-C	**Circles**	
G-C.A	Understand and apply theorems about circles	
G-C.A.1	Prove that all circles are similar.	Construct Regular Polygons Introduction to Circles
G-C.A.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 perpendicular to the tangent where the radius intersects the circle.	Arcs, Chords, and Central Angles Inscribed Angles Secants, Tangents, and Angles Special Segments Tangents to a Circle
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.	Interactive: Circle Constructions Interactive: Triangle Constructions
G-C.A.4	(+) Construct a tangent line from a point outside a given circle to the circle.	Tangents to a Circle
G-C.B	Find arc lengths and areas of sectors of circles	
G-C.B.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.	Arc Length and Area of a Sector
G-GPE	**Expressing Geometric Properties with Equations**	
G-GPE.A	Translate between the geometric description and the equation for a conic section	
G-GPE.A.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.	Conic Sections: Circles

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G-GPE.A.2	Derive the equation of a parabola given a focus and directrix.	Conic Sections: Parabolas
G-GPE.B	Use coordinates to prove simple geometric theorems algebraically	
G-GPE.B.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,ΓêÜ3) lies on the circle centered at the origin and containing the point (0, 2).	Equations of Lines Geometric Figures in the Coordinate Plane
G-GPE.B.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).	Equations of Lines Parallel Lines Perpendicular Lines Slope
G-GPE.B.6	Find the point on a directed line segment between two given points that divide the segment in a given ratio.	Distance and Midpoint Geometric Figures in the Coordinate Plane Midsegments of a Triangle
G-GPE.B.7	Use coordinates to compute perimeters of polygons and areas for triangles and rectangles, e.g. using the distance formula.	Distance and Midpoint
G-GMD	**Geometric Measurement and Dimension**	
G-GMD.A	Explain volume formulas and use them to solve 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. Use dissection arguments, Cavalieri's principle, and informal limit arguments.	Introduction to Circles Volume

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G-GMD.A.3	Use volume formulas for cylinders, pyramids, cones and spheres to solve problems.	Area of Regular Polygons Similar Solids Surface Area and Volume of Volume
G-GMD.B	Visualize the relation between two-dimensional and three-dimensional objects	
G-GMD.B.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.	Cross Sections of Solid Figures Sketching Solids Solids
G-MG	**Modeling with Geometry**	
G-MG.A	Apply geometric concepts in modeling situations	
G-MG.A.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).	Project: Tessellations Properties of Parallelograms Properties of Polygons Surface Area and Volume of Surface Area of Solid Figures Volume
G-MG.A.2	Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).	Area and Perimeter of Geometric Figures Surface Area of Solid Figures Volume
G-MG.A.3	Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy constraints or minimize cost; working with typographic grid systems based on ratios).	Area and Perimeter of Geometric Figures Surface Area and Volume of Surface Area of Solid Figures Volume

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S-CP	**Conditional Probability and the Rules of Probability**	
S-CP.A	Understand independence and conditional probability and use them to interpret data	
S-CP.A.1	Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events (''or,'' ''and,'' ''not'').	Random Behavior Set Theory Venn Diagrams and Sets
S-CP.A.2	Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent.	Mutually Exclusive and Independent Events
S-CP.A.3	Understand the conditional probability of A given B as P(A and B)/P(B), and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B.	Conditional Probability
S-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. For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results.	Probability and Two-Way Tables
S-CP.A.5	Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung cancer.	Conditional Probability
S-CP.B	Use the rules of probability to compute probabilities of compound events in a uniform probability model	
S-CP.B.6	Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A and interpret the answer in terms of the model.	Conditional Probability
S-CP.B.7	Apply the Addition Rule, P(A or B) = P(A) + P(B) - P(A and B), and interpret the answer in terms of the model.	Mutually Exclusive and Independent Events

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S-CP.B.8	(+) Apply the general Multiplication Rule in a uniform probability model, P(A and B) = P(A)P(B|A) = P(B)P(A|B), and interpret the answer in terms of the model.	Conditional Probability
S-CP.B.9	(+) Use permutations and combinations to compute probabilities of compound events and solve problems.	Probability with Combinations and Permutations
S-MD	**Using Probability to Make Decisions**	
S-MD.B	Use probability to evaluate outcomes of decisions	
S-MD.B.6	(+) Use probabilities to make fair decisions (e.g., drawing by lots, using a random number generator).	Expected Value
S-MD.B.7	(+) Analyze decisions and strategies using probability concepts (e.g. product testing, medical testing, pulling a hockey goalie at the end of a game).	Binomial Distribution