Geometry Mathematics

July 2021

Essential Resources	District Resources to Teach 100% of the TEKS located in the NBISD ECourse Resources, Geometry Online Textbook Link to TEKS: https://tea.texas.gov/curriculum/teks/
Spiraled TEKS	Process Skills Embedded in All Lessons:G.1(A) apply mathematics to problems arising in everyday life, society, and the workplace G.1(B) use a problem solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem solving process and the reasonableness of the solution G.1(C) select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems

		1st Quarter Aug 23 - Oct 15, 2021 38 Instructional Days			2nd Quarter Oct 19 - Dec 17, 2021 40 Days		
Timeline							
Unit		Unit 1 Tools of Geometry	Unit 2 Reasoning and Proof	Unit 3 Lines and Angles	Unit 4 Parallel and Perpendicular Lines	Unit 5 Similar Polygons	Unit 6 Transformational Geometry
Big Idea	Current Grade	Understand therelationships betweenpoints, lines, planes, andangles.Find the measurement of segments and angles and see how they relate to each other. Construct congruent angles and segments, bisectors, and parallel lines using a straightedge and a compass.	Use inductive & deductive reasoning to find patterns. Identify and determine the validity of the converse, inverse, contrapositive, and biconditional statements. Write algebraic and geometric two column and paragraph proofs	Analyze angle relationships including angles formed by a transversal, vertical angles, and triangles.	Construct parallel and perpendicular lines. Write equations of linear functions with a focus on parallel and perpendicular lines	Derive and use the midpoint and distance formulas to prove lines parallel or perpendicular. Analyze midsegments, perpendicular and angle bisectors, medians, and altitudes of triangles. Verify and apply the Trianglem Inequality Theorem and then Hinge Theorem using triangle inequalities	Describe and performtransformations of figuresin a plane usingcoordinate notation. Perform compositions of rigid transformations: translations, reflections, and rotations. Perform non-rigid transformations such as dilations, horizontal and vertical stretches and compressions
TEKS	Current Grade	G.2A, G.2B, G.5B, G.4A, G. 6A	G.4A, G.4B, G.4C	G.2C, G.5A, G.6A	G.4B, G.4C, G.4D, G. 5A, G.5C, G.6B, G.6C, G.6D	G.2B, G.5A, G.5B, G.5C, G. 5D, G.6A, G.6D	G.3A, G.3B, G.3C, G.3D

		3rd Quarter Jan 4 - March 11, 2022 48 Instructional Days			4th Quarter March 21 - May 26, 2022 48 Instructional Days		
Timeline							
Unit		Unit 7 and 8 Special Right Triangles and Right Triangle Trigonometry	Unit 9 Quadrilaterals	Unit 10 Circles	Unit 11 Perimeter and Area	Unit 12 Surface Area And Volume	Unit 13 Probability
Big Idea	Current Grade	Apply the relationships in special right triangles to solve problems. Apply the Pythagorean Theorem and its converse to solve problems. Determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric rations sine, cosine, and tangent to solve problems.	Classify polygons based on angles and sides and find the sum of the interior angles. Analyze properties of Parallelograms, including Rhombuses, Rectangles, and Squares. Compare non-parallelogram quadrilaterals such as Trapezoids and Kites.	Apply proportionalrelationships between the measure of an arc length and the circumference and the sector area and the total area of a circle. Describe radian measure of an angle as the ratio of the length of an arc to the radius. Write equations of circles and graph in the coordinate apply properties of tangent lines, secant lines, inscribed angles, and chords to solve problems.	Determine the are of twodimensional figures such as triangles, parallelograms, trapezoids, kites, and regular polygons. Compare the ratios of perimeters and areas of similar figures. Apply the properties of special right triangles and trigonometric ratios to find the area of triangles	Identify the shapes of 2- dimensional cross sections of dimensional figures. Find the surface area andvolume of Prisms, Cylinders, Pyramids, Cones and Spheres. Compare the ratios of scale factor, surface area, and volume	Compute the probability of two events occurring together with or without replacement. Determine experimental, theoretical, and geometric probabilities. Develop strategies to use permutations and combinations to solve contextual problems.
TEKS	Current Grade	G.4B, G.5A, G.6D, G.7A, G. 8A, G.8B, G.9A, G.9B	G.2B, G.2C, G.4B, G.5A, G.6D, G.6E	G.3A, G.7A, G.7B, G.8A	G.2B, G.4B, G.5A, G. 10B, G.11A, G.11B, G. 12B, G.12C	G.4D, G.9B, G.10A, G.10B, G.11B, G.11C, G.11D	G.13A, G.13B, G.13C, G.13D, G. 13E