Geometry Syllabus

Year	2019-2020
Required Resources	Pearson Texas Geometry Textbook and Spring Board (access via Clever) https://my.sisd.net/ Instructional aids available through Learning Express https://sisd.mackinvia.com
Process Skills	- Apply mathematics to problems arising in everyday life, society, and the workplace - 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 - Select appropriate tools such as real objects, manipulatives, paper and pencil, and technology and techniques such as mental math, estimation, and number sense to solve problems - Effectively communicate mathematical ideas, reasoning, and their implications using multiple representations such as symbols, diagrams, graphs, and language - Use mathematical relationships to generate solutions and make connections and predictions - Analyze mathematical relationships - Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

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Syllabus 1st Semester	**1st Nine Weeks** **Unit 1: Tools of Geometry** Algebra I Review, Points, Lines, and Planes, Measuring Segments and Angles, Exploring Angle Pairs, Reasoning and Proof Embed Process Standards, Parents and Conjectures (PAP Only), Conditional Statements (PAP Only), Equation of lines in the coordinate plane, slope of Parallel and Perpendicular lines **Unit 2: Reasoning and Proof** Deductive reasoning (PAP Only), Proving Angles Congruent (PAP Only) **Unit 3: Parallel and Perpendicular lines** Lines and angles 6A 1F Properties of parallel lines, Parallel lines and Perpendicular lines and Parallel lines in triangles. **Unit 4: Congruent Triangles** Congruent Figures, Triangle Congruence by SSS, SAS ASA, AAS, Using Corresponding Parts of Congruent Triangles, Isosceles and Equilateral Triangles, Congruence in Right Triangles
	2nd Nine Weeks ***Unit 5: Relations with in Triangles*** *Midpoint and distance in the coordinate plane Mid-segments of triangles, Perpendicular and angle bisectors, Bisectors in Triangles, Medians and Altitudes* ***Unit 6: Polygons and Quadrilaterals*** *The Polygon Angle-Sum Theorems, Properties of Parallelograms and Proving that a quadrilateral is a parallelogram, Properties, Conditions, and Areas of Rhombuses, Rectangles, and Squares, Trapezoids and Kites to Include Areas* ***Unit 7: Transformational Geometry*** *Transformations, Reflections, Rotations, Dilations*

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Syllabus 2nd Semester	**3rd Nine Weeks** **Unit 8: Similarity** Similar Polygons, Proving Triangles Similar, Law of Sines **Unit 9: Right Triangles and Trigonometry** The Pythagorean Theorem and its Converse, Special Right Triangles, Trigonometry and Angles of Depression and Elevation **Unit 10: Area** Areas and Properties of Parallelograms, Triangles, Areas and Properties of trapezoids, rhombuses, and kites and regular polygons. Areas Regular polygons, Perimeters and areas of Similar figures, Trigonometry and Area **Unit 11(a): Surface Area and Volume** Surface area of Prisms, Cylinders, Surface area of pyramids, cones **4th Nine Weeks** **Unit 11(b): Surface Area and Volume** Volumes of Prisms, cylinders, Volume of pyramids, cones, Surface area and Volume of spheres, Surface Areas and Volumes of Related Solids **Unit 12: Circle Measurement** Circles and Arcs, Areas of Circles and Sectors **Unit 13: Theorems About Circles** Tangent Lines, Trigonometry and Area, Chords and Arcs, Inscribed Angles, Angle measures and Segment Lengths. **Unit 14: Pre-Calculus** Radian Measure, Circles in the coordinate Plane