

Geometry

PISD Curriculum: Year at a Glance

Bundle	Title	
	Big Ideas/Enduring Understandings	Guiding Questions
Geometry Basics		
1	Points, lines, planes, and angles are concepts used to model the physical world.	<ol style="list-style-type: none"> How are points, lines, and planes related? How are points, lines, and planes different? How are distance, midpoint, and bisector useful in the real world?
Slopes of Lines & Angles Formed by Parallel Lines		
2	Relationships between the angles formed by parallel lines and their transversal can be used to identify geometric figures.	<ol style="list-style-type: none"> What are the different methods to determine slope? What are the angles formed by parallel lines and transversals? How are these angles related to each other and angles formed by other intersections?
Triangles - Classification		
3	Right triangles can be constructed and used to find the distance between two points.	<ol style="list-style-type: none"> How do you classify triangles by sides and angles? How do you use the Pythagorean theorem to find distance? How does the converse of the Pythagorean theorem help classify triangles?
Triangles Continued		
4	Congruent triangles are the foundation of many geometric proofs.	<ol style="list-style-type: none"> What are the points of concurrency of the special segments of a triangle? What are the justifications for triangle congruency?
Triangle Similarity & Trig Ratios		
5	Similarity and trigonometric relationships between geometric figures have many useful applications.	<ol style="list-style-type: none"> What is a proportion? What are the two things needed to determine similarity? How do you use the basic trig functions to find missing parts of triangles?
Conditional Statements, reasoning		
6	Proofs are the logical foundation of mathematics and build important thinking skills for all the sciences.	<ol style="list-style-type: none"> What three basic types of proofs? What are the structures of each type of proof? Why are proofs important?
Quadrilaterals		
7	The properties of parallelograms make figures useful in mechanics and construction.	<ol style="list-style-type: none"> What are the properties of the special quadrilaterals? How are the special quadrilaterals related? How are they different?
Polygons		
8	Angles and segments can be used to define polygons.	<ol style="list-style-type: none"> How do you determine the interior angles of a polygon? How do you determine the exterior angle of a polygon? How are regular polygons different than irregular polygons?
Area & Perimeter, Intro to Three Dimensional Figures		
9	The formulas for the areas of triangles and quadrilaterals are related.	<ol style="list-style-type: none"> How are the area formulas derived? Given the area how do you determine missing parts? What is the difference between orthographic and isometric drawings?
Geometric Solids, Volume & Surface Area of Prisms, Cylinders, Pyramids & Cones		
10	Volumes of geometric figures can be found by using three basic formulas.	<ol style="list-style-type: none"> What are the three geometric solid formulas for volume? How are prisms and cylinders related to pyramids and cones? Given the volume of a solid, how do you determine missing parts?
Transformations & TAKS Review		
11	Transformations can be used to verify many geometric properties.	<ol style="list-style-type: none"> What are the congruence transformations? What are the similarity transformations?
Circles		
12	The special lines, angles, and arcs of a circle have many special relationships.	<ol style="list-style-type: none"> What is the difference between arc measure and arc length? How is arc length related to circumference and how is sector area related to area of a circle? How are angles related to the arcs?