

PAP 7th Grade Curriculum Bundle #8

Title	Suggested Dates
Two-dimensional Geometry, Similarity and Scaling	February 1 – February 19 (13 days)

Big Idea/Enduring Understanding	Guiding Questions
Polygons and angles are classified by their characteristics.	1. What characteristics are used to classify polygons?
Perimeter is a linear measurement, and area is not.	1. Why do circles not have a perimeter? 2. Why would you have to calculate the area of a figure in the real-world?
Reflections and translations are ways to describe different types of movement on a coordinate plane. Reflections and translations are transformations that keep the size and shape of an object the same, so the image is equivalent to the original object with a different orientation. Dilations are transformations that enlarge or reduce an object proportionally, creating a figure similar to the original object but not equivalent.	1. How is a reflected image similar to and different than the original? 2. In a reflection, how are points and images related to the line of reflection? 3. How do you mathematically express the movement of a translated figure? 4. How can an understanding of integers be useful with translations?
Similar figures are the same shape, but can be different sizes. The scale factor between similar figures is the factor by which the image/object is reduced or enlarged, and can thereby help to determine lengths of unknown sides.	1. What methods can be used to determine the scale factor of an enlargement or reduction? 2. What methods can be used to determine the missing length of similar figures?

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

Knowledge & Skills with Student Expectations	District Specificity/Examples	Suggested Resources (See note above)
<p>7.6 Geometry and spatial reasoning. The student compares and classifies two- and three-dimensional figures using geometric vocabulary and properties.</p> <p>7.6A use angle measurements to classify pairs of angles as complementary or supplementary</p>	<ul style="list-style-type: none"> • use diagrams with multiple angles, with and without protractors • find the complement or supplement to an angle measure • use complementary or supplementary angle to find other angles in the figure • use angle notations involving 3-letters and angle symbol “\angle” 	<p>PH Textbook (7th) 7-2</p> <p>PH Textbook (8th) Lesson 7-1 thru 7-2</p> <p>Kamico 7th Grade (Book 2) Activity p. 9 “The Right Angle”</p> <p>AIRR 7th grade Activity #198-204</p> <p>Understanding Math</p>

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			<p>Understanding Measurement and Geometry: Topic 5</p> <p>Closing the Distance 7th Lesson 9 pg. 143-166</p>
<p>7.6 Geometry and spatial reasoning. The student compares and classifies two- and three-dimensional figures using geometric vocabulary and properties.</p> <p>7.6B use properties to classify triangles and quadrilaterals</p>	<ul style="list-style-type: none"> • connect to models of triangles and quadrilaterals • use sides and angles to classify • use the sum of degrees in a triangle and quadrilateral to solve problems • use shapes that are embedded in a picture (not an isolated given shape) 		<p>PH Textbook (7th) 7.3 – 7.4</p> <p>PH Textbook (8th) 7-4</p> <p>Kamico 7th Grade (Book 2) Activity p. 25 “That Figures”</p> <p>BrainPop.com Types of Triangles</p> <p>AIRR 7th grade Activity #205-215</p> <p>Dessie Material Triangle Vocabulary</p>
<p>7.7 Geometry and spatial reasoning. The student uses coordinate geometry to describe location on a plane.</p> <p>7.7B graph reflections across the horizontal or vertical axis and graph translations on a coordinate plane</p>	<ul style="list-style-type: none"> • use reflections, and translations in all four quadrants. • reflect across x- or y- axes only • use wording such as about, over • describe translation verbally • Given the ordered pair of the object and its translated image, describe the translation without use of a picture 	<p>CMP2 Stretching and Shrinking Pearson Investigation 1,2,4</p>	<p>PH Textbook (7th) 10.5 – 10.6</p> <p>PH Textbook (8th grade) 3.7</p> <p>Region IV 7th TAKS “Coordinate Translation”</p> <p>Kamico 7th Grade “Coordinate Your Moves” “Translation Station”</p> <p>AIRR 7th grade Activity #238-248</p> <p>LTF Pictures & Transformation Activity pg 34-41 (updated version on-line) The Water Park (new – available on-line)</p>

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<p>8.6 Geometry and spatial reasoning. The student uses transformational geometry to develop spatial sense.</p> <p>8.6B graph dilations, reflections, and translations on a coordinate plane</p>	<ul style="list-style-type: none"> • reflect across the x- or y- axis only • translate horizontally, vertically, and both, using verbal descriptions or rule. Ex: $(x,y) \longrightarrow (x - 5, y + 2)$ • dilate with enlargements and reductions • use scale factors to dilate 		<p>Understanding Math Understand Graphing: Topic 4 Dana Center : By the Sea</p> <p>TAKS Math Preparation Grade 8 Coordinate Reflection Lesson Pg 156-171</p> <p>TAKS Math Preparation Grade 8 Coordinate Translation Lesson Pg 124-140</p> <p>AIRR 8th grade Activity #143-150</p> <p>PH Textbook 3.6 through 3.7</p> <p>Accelerated Curriculum 8th Unit 5 Lesson 1 Unit 5 Lesson 2</p>
<p>8.6 Geometry and spatial reasoning. The student uses transformational geometry to develop spatial sense.</p> <p>8.6A generate similar figures using dilations including enlargements and reductions</p>	<ul style="list-style-type: none"> • graph figures on a coordinate grid • label dilations with 'prime notation' • find the scale factor • use scale factor to create similar figures • using the origin as the center of the dilation 		<p>TAKS Math Preparation -8th Coordinate Dilation Lesson Pg 172-184</p> <p>PH Textbook (8th) Lesson 4-5</p> <p>Understanding Math Understanding Graphing: Topic 3</p> <p>AIRR 8th grade Activity #135-142</p> <p>Accelerated Curriculum 8th Unit 5 Lesson 2</p> <p>Closing the Distance 8th Lesson 7 pg. 99-116</p>

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<p>7.6D Geometry and spatial reasoning. The student compares and classifies two- and three-dimensional figures using geometric vocabulary and properties.</p> <p>7.6D use critical attributes to define similarity.</p>	<ul style="list-style-type: none"> • teach scale factor using equivalent fractions, not only cross products • define similar polygons as having proportional corresponding sides and having congruent corresponding angles • identify similar figures pictorially • identify corresponding angles and sides by a similarity statement. 		<p>Region IV 7th TAKS Similarity</p> <p>Kamico 7th Grade “Are They Similar?”</p> <p>AIRR 7th grade Activity #222-227</p> <p>Closing the Distance 7th Lesson 10 pg. 167-184</p>
<p>7.3 Patterns, relationships, and algebraic thinking. The student solves problems involving direct proportional relationships.</p> <p>7.3B estimate and find solutions to application problems involving proportional relationships such as similarity, scaling, unit costs, and related measurement units</p> <p>Note: Focus on similarity and scaling</p>	<ul style="list-style-type: none"> • defining and applying scale factor to similar figures • use data in a table • measure using customary and metric units • solve for unit conversions • set up a proportion problem from word problems • use a scale such as 1 inch = 2 miles • find missing measures in similar figures including length and angle measures • mark congruent angles on similar figures and write ratios to compare corresponding sides 		<p>LTF Diagnostic Unit 3</p> <p>AIRR 7th grade Activity #146, 148, 150-152, 154, 156</p> <p>PH Textbook (8th grade) Lesson 4-3 thru 4-6</p> <p>NCTM: Navigating through Measurement Pg 60-61, 119-120</p> <p>Closing the Distance 7th Lesson 10 pg. 167-184</p>