


7th Grade Math Curriculum Bundle # 9

Title		Suggested Dates
2D Geometry		February 22 – March 12 (15 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 an area in the real-world?
Reflections and translations are ways to describe different types of movement on a coordinate plane.	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?

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>7.3 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"> • 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 • use unit price to determine best buy 	<p>PH Textbook Chapter 5.5</p> <p>Kamico 7th grade Book 1 “Planetary Proportions” pg. 172</p>

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<p>7.4 Patterns, relationships, and algebraic thinking. The student represents a relationship in numerical, geometric, verbal, and symbolic form.</p> <p>7.4A generate formulas involving unit conversions, perimeter, area, circumference, volume, and scaling</p> <p><u>Teacher Note:</u> 2D Only - Volume will come later. Answers may consist of several correct but different representations of the formula and you choose the one that does NOT work</p>	<ul style="list-style-type: none"> • use of multiple representations of the same formula • solve for any “piece” of a formula • solve formulas using Π (pi) in this form-do not always convert to decimal or fraction • Propagate Π throughout problem, leave answers in Π form. 		<p>PH Textbook Chapter 8.3, 8.4</p> <p>Kamico 7th Grade Book 1 “Formula Frenzy” pg. 205 “Measurement Crossover Puzzle” pg. 212 Dimensions Dialogue pg. 211</p> <p>AIRR 7th grade Activity # 157-163</p> <p>Laying the Foundation “The Index Card” pg. 124 “Finding Pi” pg. 174 “Discovering Area” pg. 256</p> <p>Area and Perimeter Website</p> <p>Interactive area and perimeter site using a ruler</p> <p>Area Tool NCTM</p> <p>Circle Tool</p> <p>Scale Factor</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>7.6A use angle measurements to classify pairs of angles as complementary or supplementary</p> <p><u>Note:</u> Supplementary & Complementary are new to 7th grade.</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 Chapter 7.2</p> <p>Kamico 7th Grade (Book 2) “The Right Angle” pg. 9</p> <p>AIRR 7th Grade Activity #198-204</p> <p>Understanding Math Understanding Measurement and Geometry: Topic 5</p>

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<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 Chapter 7.3, 7.4</p> <p>Kamico 7th Grade (Book 2) “That Figures” pg. 25</p> <p>BrainPop.com Types of Triangles</p> <p>Dessie Material Triangle Vocabulary</p> <p>AIRR 7th grade Activity #205-215</p>
<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> <p>Note: Solve for missing length</p>	<ul style="list-style-type: none"> • define similar polygons as having proportional corresponding sides and having congruent corresponding angles • use proportions to find missing sides • identify pictorially similar figures • Identify corresponding angles and sides by a similarity statement. • writing proportions in all 3 ways (example: $\frac{3}{4}$, 3 to 4, 3:4) 	<p>CMP2 Stretching and Shrinking Pearson Investigation 1</p>	<p>PH Textbook Chapter 5.5, lab 5.5a, & 5.6</p> <p>BrainPop.com Similar Triangles</p> <p>Kamico 7th Grade Book 2 Are They Similar pg. 45</p> <p>AIRR 7th grade Activity #222-227</p>

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<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 (may also use wording such as about, over) • describe translation verbally • be able to determine translation given information, but not picture 		<p>PH Textbook Chapter 10.5, 10.6</p> <p>AIRR 7th grade Activity # 238-248</p> <p>Region IV 7th TAKS “Coordinate Translation”</p> <p>Kamico 7th Grade Book 2 “Coordinate Your Moves” pg. 67 “Translation Station” pg. 80</p> <p>Laying the Foundation “Pictures & Transformation Activity” pg. 34</p> <p>Understanding Math Understanding Graphing: Topic 4</p>
<p>7.8 Geometry and spatial reasoning. The student uses geometry to model and describe the physical world.</p> <p>7.8C use geometric concepts and properties to solve problems in fields such as art and architecture</p>	<ul style="list-style-type: none"> • apply formula (on formula chart) for all two and three dimensional figures to real-life problem situations 		<p>PH Textbook Chapter 7.3</p> <p>Kamico 7th Grade (Book 2) “City of Similarity” pg 108 “Correspondences with Congruence pg 111 Symmetric Solutions pg. 113 Tessellation Trials pg. 115</p> <p>AIRR 7th grade Activity # 264-276</p>

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<p>7.9 Measurement. The student solves application problems involving estimation and measurement.</p> <p>7.9A estimate measurements and solve application problems involving length (including perimeter and circumference) and area of polygons and other shapes</p> <p>Note: Include shaded areas and complex shapes</p>	<ul style="list-style-type: none"> • use all polygons on the formula chart • utilize ruler on formula chart (using standard measurement to nearest eighth of an inch and metric to nearest millimeter) • estimate before calculations • evaluate reasonableness of answers • recognize units related to area and perimeter • solve multi-step problems involving perimeter, area, and circumference (including but not limited to complex figures) • use pi as 3.14 and $\frac{22}{7}$ to solve problems relating to area and circumference • given the area, perimeter, or circumference, find the missing dimension (leave Π in formula or expression) • find area of the shaded or unshaded region • solve problems involving unit conversions 		<p>PH Textbook Chapter 8.1 – 8.5</p> <p>Kamico 7th Grade (Book 2) “Corky’s Clubhouse” pg. 125 Measure for Success pg. 123</p> <p>Region IV 7th TAKS Perimeter and Area Lesson</p> <p>Understanding Math Understanding Measurement and Geometry: Topic 3</p> <p>AIRR 7th grade Activity #277-296</p> <p>Laying the Foundation “Polygons in a Circle” pg. 148 “Can you ‘Hand’le This Area?” pg. 250</p> <p>Constant Dimensions</p>
<p>7.2 Number, operation, and quantitative reasoning. The student adds, subtracts, multiplies, or divides to solve problems and justify solutions.</p> <p>7.2F select and use appropriate operations to solve problems and justify the selections</p>	<ul style="list-style-type: none"> • recognize correct steps in order to solve problem • choose correct expression/equation for a problem situation 		<p>Kamico 7th Grade Book 1 Comparison Shopping Activity pg. 137</p> <p>AIRR 7th grade Activity #108-111</p>