

Pre-AP 6th Grade Math Curriculum Bundle # 8

Title	Suggested Dates
Proportional Reasoning	February 1 – February 19 (13 days)

Big Idea/Enduring Understanding	Guiding Questions
Relationships between quantities (part-to-part and part-to-whole) can be expressed many ways.	<ol style="list-style-type: none"> 1. How can you choose an appropriate method to make comparisons among quantities using ratios, percents, fractions, rates, or differences? 2. Describe a situation in which equivalent ratios can be used to express a proportional relationship. 3. How is being able to express a numerical relationship as a ratio helpful/useful?
The relationship between some measurable quantity and one unit of another is called a unit rate.	<ol style="list-style-type: none"> 1. Why are unit rates needed to make effective comparisons?
Percents are used in the real-world to describe part of a whole. One percent is equal to one one-hundredth (1/100) of a whole.	<ol style="list-style-type: none"> 1. Why are percents used in store sales signs rather than fractions or decimals? 2. How can you use estimation and mental math to calculate a 20% tip?

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>6.2 Number, operation, and quantitative reasoning. The student adds, subtracts, multiplies, and divides to solve problems and justify solutions.</p> <p>6.2C use multiplication and division of whole numbers to solve problems including situations involving equivalent ratios and rates</p> <p><i>Note: Continued from bundle 7</i></p>	<ul style="list-style-type: none"> • use of proportions but not limited to cross products (Look for equivalent ratios first) • involve whole number situations relevant to real world • verify solutions with and without a calculator • identify ratios in various forms • make predictions using proportions • solve multi-step problems 	<p>CMP2 Comparing and Scaling Pearson Investigations 3, 4</p>	<p>PH: Lessons 7-1, 7-2, 7-3, 7-4, 7-5</p> <p>Kamico Developmental: “Multiplication Melee” pp. 80-89, “The Great Divide” pp. 90-91, “Ratio Ravine” pp. 92-103</p> <p>www.BrainPop.com Ratios</p>
<p>7.2 Number, operation, and quantitative reasoning. The student adds, subtracts, multiplies, or divides to solve problems and justify solutions.</p>	<ul style="list-style-type: none"> • model equivalent and proportional relationships • use unit rates with appropriate labeling • involve real world situations • discuss appropriate labels/units 		<p>AIRR 7th Grade Activity 99</p> <p>Region IV</p>

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<p>7.2D use division to find unit rates and ratios in proportional relationships such as speed, density, price, recipes, and student-teacher ratio</p> <p><i>Note: Continued from bundle 7</i></p>	<ul style="list-style-type: none"> • use real life conversions (ex. dozen) • use measurement vocabulary • use customary and metric units 		<p>Unit Rate Lesson</p> <p>LTF Cereal Math pg 160-163 Rating the Trip pg 164-167</p>
<p>6.3 Patterns, relationships, and algebraic thinking. The student solves problems involving direct proportional relationships.</p> <p>6.3A use ratios to describe proportional situations</p> <p><i>Note: Continued from bundle 7</i></p>	<ul style="list-style-type: none"> • use ratios that may or may not be in lowest terms • represent ratios in a table, equation, or verbal description • recognize the three written forms of a ratio (ex. 1:2, 1/2, 1 to 2) • generate equivalent forms of ratios and simplify to lowest terms 		<p>PH: Lessons 7-1, 7-4, 7-5</p> <p>Understanding Math Understanding Percent: Topic 4</p>
<p>6.3 Patterns, relationships, and algebraic thinking. The student solves problems involving direct proportional relationships.</p> <p>6.3C use ratios to make predictions in proportional situations</p> <p><i>Note: Continued from bundle 7</i></p>	<ul style="list-style-type: none"> • set up a proportion problem from a verbal description and solve • use data in a table or make table with given data • demonstrates proportional situations involving customary and metric units • demonstrates proportional situations involving rate and time 		<p>PH: Lessons 7-2, 7-4, 7-6, 10-4</p> <p>AIRR: Activity 125 p. 29</p> <p>www.BrainPop.com Metric vs. Imperial</p> <p>LTF Stock Car Races (new – available on-line) Unit 2 Diagnostic</p>
<p>6.4 Patterns, relationships, and algebraic thinking. The student uses letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes.</p> <p>6.4A use tables and symbols to represent and describe proportional and other relationships such as those involving conversions, arithmetic sequences (with a constant rate of change), perimeter and area</p> <p><i>Note: arithmetic sequences</i></p>	<ul style="list-style-type: none"> • find equations or expressions to represent a situation <ul style="list-style-type: none"> ○ including data given in input/output tables • match a table of data to a given equation or expression • correctly identify proportions that represents a given situation 		<p>PH: Lessons 3-1, 3-2, 3-3</p> <p>4 Corners</p> <p>Region IV: “Perimeter of Rectangles and More” pp. 87-92</p> <p>www.BrainPop.com Equations with Variables</p>
<p>6.5 Patterns, relationships, and algebraic thinking. The student uses letters to represent an unknown in an equation.</p> <p>6.5 The student is expected to formulate equations from problem situations described by linear</p>	<ul style="list-style-type: none"> • formulate one-step or two-step equations • use of variables to represent unknowns • utilize multiplication in various forms (parenthesis, $3n$, of, lw, r^2) • work with data in tables • manipulate formulas to find solve for unknowns 		<p>PH: Lessons 3-5, 3-6, 3-7</p> <p>Understanding Math Understanding Equations: Topic 1, Topic 2</p>

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relationships	(i.e $C = \pi d$ or $d = C/\pi$)		LTF Rate Graphs pg 54-57 Linear Functions pg 58-65
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