7th Grade Math Curriculum Bundle # 7

Title	Suggested Dates
Ratios, Unit Rate, and Percents	January 5 – January 29 (18 days)

Big Idea/Enduring Understanding	Guiding Questions
Relationships between quantities (part-to-part and part-to-whole) can be expressed many ways.	1. How can you choose an appropriate method to make comparisons among quantities using ratios, percents, fractions, rates, or differences? 2. 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.	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.	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)	
7.1 Number, operation, and quantitative reasoning. The student represents and uses numbers in a variety of equivalent forms. 7.1B convert between fractions, decimals, whole numbers, and percents mentally, on paper, or with a calculator Note: Emphasis on percents, include them in comparing and ordering problems.	• use multiple forms in real-world applications • use only positive numbers • Use the following forms of numbers to convert to a percent: o Mixed numbers o Proper & Improper fractions o Decimals • use pictorial representation	**CMP2 Bits and Pieces III** Pearson Investigation 4, 5	**PH Textbook** Chapter 2.6, 2. 6a (lab) **AIRR 7th Grade** Activity # 31-44 **Kamico 7th Grade** **"**Triple Match" pg. 21 **Region IV** Equivalence Lesson **Understanding Math** Understanding Fractions: Topic 4,Topic 6 Understanding Percent: Topic 2, Topic 3

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7.3 Patterns, relationships, and algebraic thinking. The student solves problems involving direct proportional relationships. 7.3A estimate and find solutions to application problems involving percent	• solve for percent of a number (tax, discount, tip, rebate, commission) • solve for percent of change (increase, decrease) • use proportions and emphasize percent over 100 • estimate as needed before computing • recognize benchmark percents (for example: 10%, 20%, 25%, 50%...) • understand fractional equivalents for percents • identify and use part and whole • use percent bar representation		**PH Textbook** Chapter 6 **Understanding Math** Understanding Percent: Topic 5 **AIRR 7th Grade** Activity # 117-142 **Kamico 7th grade** "Percentage Pursuit" pg. 156
7.2 Number, operation, and quantitative reasoning. The student adds, subtracts, multiplies, or divides to solve problems and justify solutions. 7.2D use division to find unit rates and ratios in proportional relationships such as speed, density, price, recipes, and student-teacher ratio	• model equivalent and proportional relationships • use unit rates with appropriate labeling • involve real world situations • discuss appropriate labels/units • use real life conversions (ex. dozen) • use measurement vocabulary • use customary and metric units	**CMP2 Comparing and Scaling** Pearson Investigations 1, 2, 3	**PH Textbook** Chapter 5.1 – 5.4 **Kamico 7th Grade** "Ratio Rally" pg. 98 **AIRR 7th Grade** Activity # 98-102 **Region IV** Unit Rate Lesson
7.3 Patterns, relationships, and algebraic thinking. The student solves problems involving direct proportional relationships. 7.3B estimate and find solutions to application problems involving proportional relationships such as similarity, scaling, unit costs, and related measurement units Note: Focus on ratios and unit rate	• 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		**PH Textbook** Chapter 5.2 - 5.6 **AIRR 7th Grade** Activity # 143-156 **Laying the Foundation** "Cereal Math" pg 160 "Rating the Trip" pg. 164 **Kamico 7th Grade Book 1** "Planetary Proportions" pg. 172 Bargin Bonanza pg 198 Contatious Estimatious pg. 180 Measure Mania pg. 193