

6th Grade Math Curriculum Bundle # 6

Title	Suggested Dates
Ratios, Proportions, and Probability	December 7 – December 18 (10 days)

Big Idea/Enduring Understanding	Guiding Questions
Various forms of ratios can describe part to part and part to whole relationships.	<ol style="list-style-type: none"> Describe a situation in which equivalent ratios can be used to express a proportional relationship. Describe how a ratio can be used to make predictions. (probability).
Theoretical probability is found by analyzing a situation and predicting outcomes and experimental probability is found as the result of an experiment.	<ol style="list-style-type: none"> Are experimental and theoretical probabilities always equivalent? How are theoretical and experimental probabilities alike and different?
Theoretical probabilities can be analyzed by constructing sample spaces and experimental probabilities can be analyzed by collecting experimental data.	<ol style="list-style-type: none"> How can you determine all possible outcomes of an event? How do you determine the probability of an event and its complement?

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>	<ul style="list-style-type: none"> • use of proportions but not limited to cross products • 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 How Likely Is It? Investigation 1, 2</p> <p>NOTE: ratios and proportions can be supported through probability activities if time becomes an issue</p>	<p>PH: Lessons 1-2, 1-4, 4-1, 7-1, 7-2, 7-3, 7-4, 7-6</p> <p>AIRR: Activities 102-106, Activity 125 p 29</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: This is a continuation from topics in Bundle #5</i></p>	<ul style="list-style-type: none"> • Conversions between and among all forms • Express ratios as part to part and part to whole • use pictures and models to express ratios • 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. 		<p>Kamico :“Multiplication Melee”, “The Great Divide”, “Ratio Ravine”, “Fivers”, “Ratio Rummy”, “Ratio & Proportion”, and “Proportion Prediction”</p> <p>Region 4 Accelerated Curriculum: Unit 4 lesson 2</p>

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<p>with a new emphasis on the use of part to part ratios and writing proportions. Focus on the use of fractions for part to whole ratios, and the use of a colon and/or the word “to” for part to part ratios.</p>	<p>1:2, 1/2, 1 to 2)</p> <p>Note: Many of these specificities of ratios can be taught through probability</p>		<p>pgs 110-115</p> <p>Region 4 Closing the Distance: Lesson 9 pgs 151-166</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>	<ul style="list-style-type: none"> • set up a proportion problem from a verbal description and solve • use data in a table or make a table with given data • demonstrates proportional situations involving rate and time 		<p>Kamico: “Let Me Count the Ways”</p> <p>AIRR: Tree Diagrams, Activity 222-224</p>
<p>6.9 Probability and statistics. The student uses experimental and theoretical probability to make predictions.</p> <p>6.9A construct sample spaces using lists and tree diagrams</p>	<ul style="list-style-type: none"> • Identify all possible outcomes • Display possible outcomes as lists, tables, and tree diagrams (horizontally and vertically) 		<p>PH: Lesson 10-2</p> <p>AIRR: Activities 225-227</p>
<p>6.9 Probability and statistics. The student uses experimental and theoretical probability to make predictions.</p> <p>6.9B find the probabilities of a simple event and its complement and describe the relationship between the two</p>	<ul style="list-style-type: none"> • determine the results of simple events (one thing happening) and its complement • collect data using frequency tables • interpret the results of a given experiment and express its probability as a ratio in all forms (simplified) • determine the experimental probability of given events 		