


8th Grade Math Curriculum Bundle # 1

Title		Suggested Dates
Rational Numbers, Scientific Notation and Order of Operations		August 25 – September 11 (13 Days)

Big Idea/Enduring Understanding	Guiding Questions
<p>Different forms of rational numbers are appropriate for use in different situations. (Examples: determining parts of a whole in a recipe, measuring long distances or microscopic objects, recording data, representing the amount of increase or decrease in given situations such as yards gained or lost on a football field, checking account balances, and elevations.)</p>	<ol style="list-style-type: none"> 1. In what ways can rational numbers be represented? 2. In what situations would you want to use percents? Decimals? Fractions? Scientific notation? 3. What form of rational numbers would be best to compare and order numbers? 4. How do you choose the best operation(s) to use in given situations with positive and negative rational numbers? 5. Why does society need a conventional “order of operations” and what is the order of operations that our society uses?

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)
Three days allotted for beginning of year activities. Include AVID activities “Name Game” and “Team Huddle”		
<p>8.1 Number, operation, and quantitative reasoning. The student understands that different forms of numbers are appropriate for different situations.</p> <p>8.1A compare and order rational numbers in various forms including integers, percents, and positive and negative fractions and decimals</p>	<ul style="list-style-type: none"> • arranging on a number line • identify equivalent forms • percents - greater and less than 100% and percents that contain fractions and decimals Ex. 6 ½ % 0.05% 145% • finding rational numbers between different combinations of rational numbers 	<p><u>Kamico- TAKS Connection: Developmental Series Math 8 Book 1</u> Activity- Flip for your order:</p> <p><u>Region IV Accelerated Curriculum 8th Grade-</u> Unit 1 Lesson 1-Compare and Order Rational Numbers</p> <p><u>Prentice Hall</u> Activity- 2-3 Pg 62</p> <p><u>TexTeams- Algebraic Reasoning</u> Order on the Line</p>

8th Grade Math Curriculum Bundle # 1

<p>8.1 Number, operation, and quantitative reasoning. The student understands that different forms of numbers are appropriate for different situations.</p> <p>8.1E compare and order real numbers with a calculator</p> <p>Note: NEW TEKS in 8th grade this year! Repeated in Bundle 6 with square roots</p>	<ul style="list-style-type: none"> • using a calculator, change numbers to the same form and then compare 		
<p>8.1 Number, operation, and quantitative reasoning. The student understands that different forms of numbers are appropriate for different situations.</p> <p>8.1D express numbers in scientific notation, including negative exponents, in appropriate problem situations</p>	<ul style="list-style-type: none"> • convert between standard form and scientific notation • use positive and negative exponents • relate to multiplying and dividing by powers of ten 		<p><u>Prentice Hall</u> Chapter 2- Section 8 pg 92</p> <p><u>Region IV Accelerated Curriculum for Mathematics 8th Grade</u> Unit 1 Lesson 2-Scientific Notation</p> <p><u>A.I.R.R.-8th Grade</u> Activity 52- Scientific Notation Match</p> <p><u>Understanding Math</u> Understanding Exponents: Topic 4</p>
<p>8.1 Number, operation, and quantitative reasoning. The student understands that different forms of numbers are appropriate for different situations.</p> <p>8.1B select and use appropriate forms of rational numbers to solve real-life problems including those involving proportional relationships</p> <p>Note: Focus on operations with rational numbers in context. Proportions are in bundle 2 and percents are in bundle 4. Percent applications in this bundle are questions that require conversions between fractions, decimals, and percents.</p>	<ul style="list-style-type: none"> • select and use a variety of forms of rational numbers within a problem to solve real-world applications in the form of fractions, percents, and decimals • conversions between fractions, decimals, and percents. Examples: $\frac{1}{2}=.5=50\%$ 		<p><u>Kamico- TAKS Connection: Developmental Series Math 8 Book 1</u> Activity- Three Point Play</p> <p><u>A.I.R.R.</u> Activity 23- Converting From One Form to Another</p> <p><u>NCTM- Navigating Through Numbers and Operations</u> Activity- Science Fair Teacher notes pg 20-23 Student pg 115-116</p>

8th Grade Math Curriculum Bundle # 1

<p>8.2 Number, operation, and quantitative reasoning. The student selects and uses appropriate operations to solve problems and justify solutions.</p> <p>8.2A select appropriate operations to solve problems involving rational numbers and justify the selections</p>	<ul style="list-style-type: none"> • recognize correct order of operations (PEMDAS) • choose correct expression/equation for a problem situation • formulate equations with appropriate order of operations • explain which operation to use and justify its use 		<p><u>Prentice Hall</u> Chapter1-Section1 Pg. 4</p> <p><u>Dessie Sherrill's Translating Expression Cards</u> (available on share drive)</p> <p><u>Kamico- TAKS Connection: Developmental Series Math 8 Book 1</u> Match Point</p> <p><u>Understanding Math</u> Understanding Integers: Topic 9</p> <p><u>A.I.R.R.</u> Activity 56- Which Operation Is Appropriate Activity 57- 8.2A TAKS Practice</p>
<p>8.2 Number, operation, and quantitative reasoning. The student selects and uses appropriate operations to solve problems and justify solutions.</p> <p>8.2B use appropriate operations to solve problems involving rational numbers in problem situations</p>	<ul style="list-style-type: none"> • use multiple operations in a problem (+, -, x, /) • solve multi-step problems • integers • use real-life problems • integrate measurement problems that require conversions of units of measure 		<p><u>Prentice Hall</u> Chapter 2-Section 4 Pg 66 Chapter 2-Section 5 Pg 72 Chapter 1-Section 3 Pg 16 Chapter 1-Section 4 Pg 20</p> <p><u>Kamico- TAKS Connection: Developmental Series Math 8 Book 1</u> Activity- Add Mission</p> <p><u>Region IV Closing the Distance</u> Lesson 2 Operations with Rational Numbers Part 1 pg 19-36</p> <p><u>Understanding Math</u> Understanding Equations: Topic 3</p>

8th Grade Math Curriculum Bundle # 1

<p>8.2 Number, operation, and quantitative reasoning. The student selects and uses appropriate operations to solve problems and justify solutions.</p> <p>8.2C evaluate a solution for reasonableness</p>	<ul style="list-style-type: none"> • discuss appropriate labels for solutions • use mathematical reasoning to justify the solution • use of estimation throughout process 		<p><u>Region IV Closing the Distance</u> Lesson 3 Operations with Rational Numbers Part 2 Pg 37-48</p> <p><u>A.I.R.R.</u> Activity 72-Let's Be Rational Activity 73-Is It Reasonable? Activity 74-Make the Solution Reasonable. Activity 75-Writing Reasonable Conclusions Activity 76-TAKS Practice 8.2C</p>
<p>8.14 Underlying processes and mathematical tools. The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.</p> <p>8.14B use a problem-solving model that incorporates understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness</p> <p>Note: Emphasize throughout all bundles.</p>	<ul style="list-style-type: none"> • relate mathematical skills to given situations 		<p>Covered through the above activities</p>
<p>8.14 Underlying processes and mathematical tools. The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.</p> <p>8.14C select or develop an appropriate problem-solving strategy from a variety of different types, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem</p> <p>Note: Emphasize throughout all bundles.</p>	<ul style="list-style-type: none"> • develop a plan to solve problems with emphasis on the plan versus the solution • no solution needed 		<p>Covered through the above activities</p>

8th Grade Math Curriculum Bundle # 1

<p>8.14 Underlying processes and mathematical tools. The student applies Grade 8 mathematics to solve problems connected to everyday experiences, investigations in other disciplines, and activities in and outside of school.</p> <p>8.14D select tools such as real objects, manipulatives, paper/pencil, and technology or techniques such as mental math, estimation, and number sense to solve problems</p> <p>Note: Emphasize throughout all bundles.</p>	<ul style="list-style-type: none">• student generated processes to solve problems and apply their methods to given problems		<p>Covered through the above activities</p> <p><u>Kamico- TAKS Connection:</u> <u>Developmental Series Math 8</u> <u>Book 1</u> S.W.A.T. Team</p>
---	---	--	--