

## Algebra Curriculum Bundle # 1

<b>Title</b>	<b>Suggested Dates</b>
Foundations and Proportions	August 25 – September 11 (13 Days)



<b>Big Idea/Enduring Understanding</b>	<b>Guiding Questions</b>
Using mathematical models adds meaning to numerical relationships.	<ol style="list-style-type: none"> <li>1. How do models, patterns, and mathematical properties elicit efficient methods for operational computations?</li> <li>2. What is the conventional order to solving a problem that includes various mathematical operations and both positive and negative integers and why do we need that convention?</li> <li>3. How can using ratio tables help understand relationships between proportional quantities?</li> </ol>
Proportional reasoning can be applied in many real world situations in the forms of ratios, rates, and proportions.	<ol style="list-style-type: none"> <li>1. How are applications involving percents connected to proportional reasoning?</li> <li>2. How can using ratio tables help to understand percents?</li> </ol>

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.

<b>Knowledge &amp; Skills with Student Expectations</b>	<b>District Specificity/Examples</b>	<b>Suggested Resources</b> (See note above)	
<p><b>A.3 The student understands how algebra can be used to express generalizations and recognizes and uses the power of symbols to represent situations.</b></p> <p>A.3A The student uses symbols to represent unknowns and variables.</p>	<ul style="list-style-type: none"> <li>• Use variables to express generalizations of patterns found in tables, graphs, verbal descriptions, and/or models</li> <li>• Use a variety of symbols or variables for example, h to represent hours—not always x and y</li> </ul>	<p><b>Holt:</b> Section 1.1, 1.1 lab</p>	
<p><b>8.2 The student selects and uses appropriate operations to solve problems and justify solutions.</b></p> <p>8.2B Use appropriate operations to solve problems involving rational numbers in problem situations.</p> <p><i>Note: Calculators can be used.</i></p>	<ul style="list-style-type: none"> <li>• use multiple operations in a problem (+, -, x, /)</li> <li>• solve multi-step problems</li> <li>• integers</li> <li>• use real-life problems</li> <li>• measurement problems that require conversion of units of measure</li> </ul>	<p><b>Holt:</b> Section 1.2 – 1.4, 1.6</p> <p><b>Discovering:</b> Section 2.7</p>	<p><b>A&amp;M:</b> Fall Section 1.1, 1.6</p> <p><b>Mathsnet.net</b> <a href="#">“What x?” Interactive activity</a></p>

## Algebra Curriculum Bundle # 1

<p><b>A.4 The student understands the importance of the skills required to manipulate symbols in order to solve problems and uses the necessary algebraic skills required to simplify algebraic expressions and solve equations and inequalities in problem situations.</b></p> <p>A.4B The student uses the commutative, associative, and distributive properties to simplify algebraic expressions.</p> <p>Note: Consider covering with previous TEKS. Calculator can be used.</p>	<ul style="list-style-type: none"> <li>• <b>Model</b> the properties using manipulatives such as algebra tiles</li> <li>• Use properties in algebraic expressions, equations, and numerical expressions.</li> </ul>	<p><b>Holt:</b> Section 1.7</p> <p><b>Discovering:</b> Section 4.4</p>	<p><b>A&amp;M:</b> Fall Section 1.5</p> <p><b>Mathsnet.net</b> <a href="#">“What x? Interactive Activity”</a></p>
<p><b>8.3 The student identifies proportional or non-proportional linear relationships in problem situations and solves problems.</b></p> <p>8.3B Estimate and find solutions to application problems involving percents and proportional relationships such as similarity and rates.</p>	<ul style="list-style-type: none"> <li>• include real world situations such as speed, tax, sale price, % change, scale drawings, mark-up/discount, recipes, commission, simple interest</li> <li>• discuss appropriate labels/units</li> <li>• find missing measures in similar figures including length and angle measures</li> <li>• mark congruent angles on similar figures and write ratios to compare corresponding sides</li> </ul>	<p><b>Holt:</b> Section 2.6 – 2.10, 2.10 lab</p> <p><b>Discovering:</b> Section 2.1 – 2.3</p>	<p><b>A&amp;M:</b> Fall Section 4.1</p>
<p><b>A.6 The student understands the meaning of the slope and intercepts of linear functions and interprets and describes the effects of changes in parameters of linear functions in real-world and mathematical situations.</b></p> <p>A.6G The student relates direct variation to linear functions and solves problems involving proportional change.</p> <p>Note: basic proportions here - repeated in bundle 5 for additional linear applications</p>	<ul style="list-style-type: none"> <li>• Relate tables, models, symbols, graphs and verbal representations to direct variation and proportional situations.</li> </ul>	<p><b>Holt:</b> Section 2.6 – 2.10, 2.10 lab</p> <p><b>Discovering:</b> Section 2.1 – 2.3</p>	<p><b>Dana Center</b> Finding Pairs</p>

## Algebra Curriculum Bundle # 1

<p><b>A.7 The student formulates equations and inequalities based on linear functions, uses a variety of methods to solve them, and analyzes the solutions in terms of the situation.</b></p> <p>A.7B The student <b>investigates</b> methods for solving linear equations and inequalities using concrete models, graphs, and the properties of equality, selects a method, and <b>solves</b> the equations and inequalities.</p> <p>Note: focus on solving using models, and properties of equality – repeated with graphing in bundle 6; focus on solving 1 step equations. Solving two step equations and inequalities are covered in bundle 2.</p>	<ul style="list-style-type: none"> <li>• Choose an appropriate method for solving a particular linear equation/inequality.</li> <li>• Be able to use all methods (models, graphs, properties of equality,) to solve equations/inequalities</li> <li>• Relate and connect the methods to each other.</li> <li>• Use concrete and pictorial models</li> </ul>	<p><b>Holt:</b> Section 2.1 – 2.5, 2.1 lab, 2.2 lab, 2.3 lab Sections 3.1 – 3.6, 3.6 lab</p> <p><b>Discovering:</b> Section 2.8, 3.6, 5.5</p>	<p><b>A&amp;M:</b> Fall Section 2.1 – 2.5</p>
---	---	---	---