

Mathematical Models with Applications Curriculum Bundle #4

Title	Suggested Dates
Solving Systems of Equations (approx 1.5 weeks)/ Solving and Graphing Inequalities (approx 1.5 weeks)	October 26 – November 13 (14 days)

Big Idea/Enduring Understanding	Guiding Questions
Systems of equations are groups similar functions looked at together to compare their values – for example two cell phone plans, or the distances that two cars are traveling..	<ol style="list-style-type: none"> 1. In what situation would you use a system of equations? What do you have to consider when writing a system of equations to model a situation? 2. How many methods can you use to determine the solution to system of linear equations? How do you choose which method to use? 3. What does the solution to a system represent in a real life situation?
When solving a system, the “solution” represents the point of overlap/intersection where the values of both functions are the same.	
When solving an inequality, the solution will not be a single point, but rather the boundary(s) of the set of all solutions.	

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>M.1 The student uses a variety of strategies and approaches to solve both routine and nonroutine problems.</p> <p>M.1A compare and analyze various methods for solving a real-life problem</p>	<ul style="list-style-type: none"> • Ongoing skill 	
<p>M.1 The student uses a variety of strategies and approaches to solve both routine and nonroutine problems.</p> <p>M.1B use multiple approaches (algebraic, graphical, and geometric methods) to solve problems from a variety of disciplines;</p>	<ul style="list-style-type: none"> • Solve systems of equations – focus on solving by graphing and using calculator • Solve Inequalities – focus on solving by graphing and using calculator 	<p>Region IV/Comap <u>Modeling with Mathematics – A Bridge to Algebra II</u> Section 3.2, 3.3 (system) , 3.11 – 3.14 (inequalities) p. 137-142, p. 166-183A</p> <p>Pearson <u>Mathematical Models with Applications</u> Sections 3.6 – 3.8 (both) p. 290-313</p> <p><i>Systems:</i> <u>A&M Curriculum</u> Fall Section 5.4, 6.1-6.3, 6.6</p>

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		<p><i>Inequalities:</i> <u>A&M Curriculum</u> Fall Section 3.3, 3.5, 6.4</p>
<p>M.1 The student uses a variety of strategies and approaches to solve both routine and nonroutine problems.</p> <p>M.1C select a method to solve a problem, defend the method, and justify the reasonableness of the results.</p>	<ul style="list-style-type: none"> • Ongoing skill 	<p>Pearson <u>Mathematical Models with Applications</u> Section 3.6 p. 290 – 292</p>
<p>M.3 The student develops and implements a plan for collecting and analyzing data (qualitative and quantitative) in order to make decisions.</p> <p>M.3B communicate methods used, analyses conducted, and conclusions drawn for a data-analysis project by written report, visual display, oral report, or multi-media presentation;</p>	<ul style="list-style-type: none"> • Ongoing skill 	