



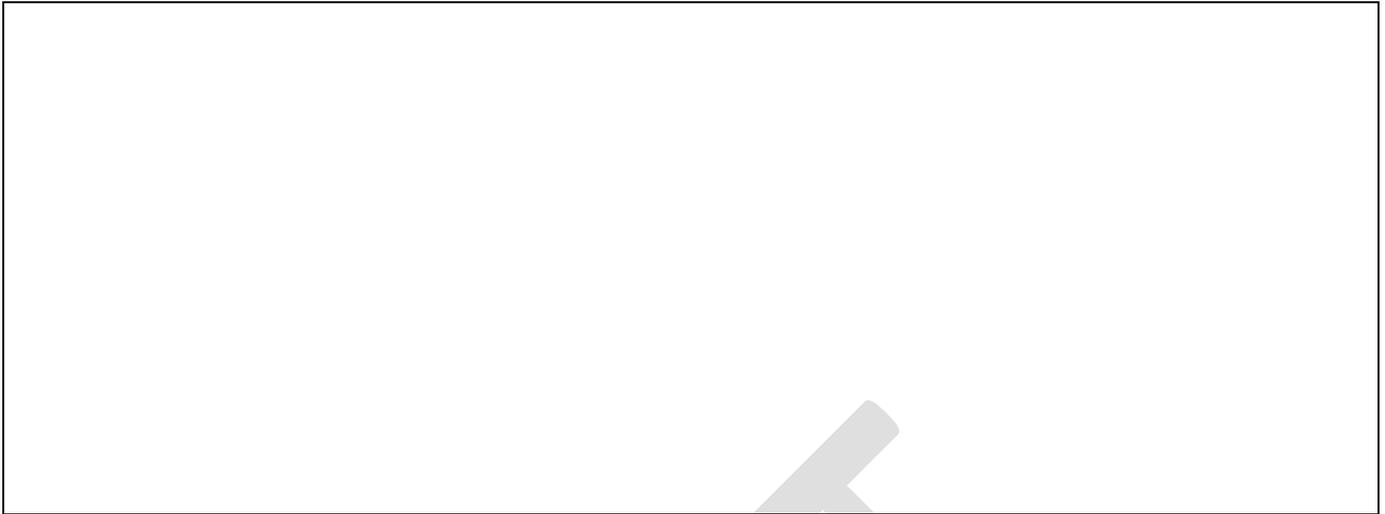
WEST SHORE SCHOOL DISTRICT
Algebra II Essentials Learning Module 3

Title of Module	Linear Systems of Equations	Grade Level	10-12
Curriculum Area	Algebra II	Time Frame	15 Days

Desired Results

Best Practices				
1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics 5. Use appropriate tools strategically 6. Attend to precision 7. Look for and make use of structure (Deductive Reasoning) 8. Look for and express regularity in repeated reasoning.				
Transfer Goals				
Students will be able to independently use their learning to... <ul style="list-style-type: none"> • Connect old problem solving techniques to new curriculum. • Connect new material to real world applications. • Create viable mathematical arguments and use them to critique the arguments of fellow classmates. 				
Key Learnings/Big Ideas				
Students will learn how to solve linear systems both graphically and algebraically, and then create their own systems to model real-world problems.				
Content, Reading and Writing Standards				
CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships. CC.2.2.HS.C.2 Graph and analyze functions and use their properties to make connections between the different representations	CC.2.2.HS.D.6 Extend the knowledge of rational functions to rewrite in equivalent forms. CC.2.2.HS.C.3 Write functions or sequences that model relationships between two quantities	CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method CC.2.2.HS.C.5 Construct and compare linear, quadratic, and exponential models to solve problems.	CC.2.2.HS.D.10 Represent, solve, and interpret equations/inequalities and systems of equations/inequalities algebraically and graphically.	CC.2.2.HS.C.2 Graph and analyze functions and use their properties to make connections between the different representations.

Essential Questions	Vocabulary (Best Practices) Utilize concepts & competencies to add to vocabulary
Unit EQ: How can linear systems be written and solved to answer real-world application problems? LEQs <ol style="list-style-type: none"> 1. What is a system of linear equations? How can they be solved by graphing? 2. What are the different types of linear systems? How do they look graphically? 3. How are linear systems solved algebraically using the substitution method? 4. How are linear systems solved algebraically using the elimination method? 5. How are two variable systems of inequalities graphed? What does the graph represent? 	Solution to a Linear Equation System of Linear Equations Solution to a Linear System of Equations Slope-Intercept Form Independent Systems Dependent Systems Inconsistent Systems Substitution Method Elimination Method Systems of inequalities
Concepts Students will know...	Skills/Competencies (I Can...) Based on LEQs Students will be able to...
<ol style="list-style-type: none"> 1. The differences between independent, dependent, and inconsistent systems 2. How to graph two lines on one axis and identify the point of intersection (the solution to the system) 3. How to solve both two variable systems with different algebraic methods. 4. How to graph two variable systems of inequalities 	<ol style="list-style-type: none"> 1. I can discern the difference between independent, dependent, and inconsistent systems using both graphs and algebra. 2. I can solve a linear system by graphing each equation and finding the point of intersection. 3. I can solve a linear system algebraically using both the substitution and elimination methods 4. I can graph a two variable system of inequalities.
Assessment Evidence	
Formative Assessment	
Think-Pair-Share, Guided Note Checkpoints, Mini-Whiteboards, Ticket In/Out the door	
Summative Assessment	
Common Assessments	
Best Instructional Practices	



Resources

Student	Teacher

Adapted from Wiggins, Grant and J. Mc Tighe. (1998). Understanding by Design, Association for Supervision and Curriculum Development, ISBN # 0-87120-313-8 (ppk)