



WEST SHORE SCHOOL DISTRICT

Algebra II Learning Module 2

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...

- 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.D.6 Extend the knowledge of rational functions to rewrite in equivalent forms.	CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method	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.
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.C.3 Write functions or sequences that model relationships between two quantities	CC.2.2.HS.C.5 Construct and compare linear, quadratic, and exponential models to solve problems.		

Essential Questions	Vocabulary (Best Practices) Utilize concepts & competencies to add to vocabulary
<p>Unit EQ: How can linear systems be written and solved to answer real-world application problems?</p> <p>LEQs</p> <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. What do three variable systems represent? How are they solved algebraically? 	<p>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 Three-Variable Systems</p>
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 and three variable systems with different algebraic methods 	<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 solve a three variable linear system using a modified version of the elimination method.

Assessment Evidence

Formative Assessment

Think-Pair-Share, Guided Note Checkpoints, Mini-Whiteboards, Ticket In/Out the door

Summative Assessment

Common Assessments

Best Instructional Practices

[Activating Strategies](#)
[Extended Thinking](#)
[Summarizing](#)
[Vocabulary in Context](#)
[Advance Organizers](#)
[Non-verbal Representation](#)
[Integration of Webb's Depth](#)
[Integration of 21st Century Skills](#)
[Reading and writing across disciplines](#)
[Rigor and Relevance](#)

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)

DRAFT