



WEST SHORE SCHOOL DISTRICT Algebra II Learning Module 1

Title of Module	Intro/Review of Linear Algebra	Grade Level	10-12
Curriculum Area	Algebra II	Time Frame	20 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 review the essentials of Algebra I (linear equations) to prepare them for success in Algebra II.

Content, Reading and Writing Standards

CC.2.1.HS.F.2 Apply properties of rational and irrational numbers to solve real world or mathematical problem	CC.2.2.HS.D.1 Interpret the structure of expressions to represent a quantity in terms of its context.	CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable.	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.2.1.HS.F.4 Use units as a way to understand problems and to guide the solution of multi-step problems.	CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships.	CC.2.2.HS.D.9 Use reasoning to solve equations and justify the solution method.	CC.2.2.HS.C.1 Use the concept and notation of functions to interpret and apply them in terms of their context.	

Essential Questions	Vocabulary (Best Practices) Utilize concepts & competencies to add to vocabulary
<p>Unit EQ: What are the essentials of Algebra I and why are they crucial for success in Algebra II?</p> <p>LEQs</p> <ol style="list-style-type: none"> How are numbers sorted into groups such as rational, irrational, integers, whole, and natural? What are the rules for basic operations with fractions? How is the order of operations used to solve multi-step linear equations? What is the difference between linear equations and inequalities? How are they solved and graphed? How does Slope-Intercept Form help graph lines? What about other forms? What is a function? 	<p>Equation Expression Function Inequality Absolute Value Solution Evaluation Slope-Intercept Form Y-axis, X-axis Y-Intercept, X-intercept</p>
Concepts Students will know...	Skills/Competencies (I Can...) Based on LEQs Students will be able to...
<ol style="list-style-type: none"> How to solve a variety of multi-step equations, inequalities, and absolute-value equations How to graph a variety of different equations and inequalities using Slope-Intercept form, Point-Slope Form, and Standard Form Discern between an arbitrary relation and a function both graphically and algebraically 	<ol style="list-style-type: none"> I can identify a number as an irrational, rational, integer, whole, or natural number and state the reason why I can solve a variety of different linear equations and inequalities I can graph a variety of different linear equations and inequalities in Slope-Intercept, Point-Slope, and Standard Forms I can discern the difference between a function and any other arbitrary relation

Assessment Evidence

Formative Assessment
Think-Pair-Share, Guided Note Checkpoints, Mini-Whiteboards, Tickets In/Out of the door
Summative Assessment
Common Assessments
Best Instructional Practices

21 Century Skills		
Learning and Innovation Skills	Information, Media, and Technology Skills	Life and Career Skills
Creativity and Innovation Critical Thinking and Problem Solving Communication and Collaboration	Information Literacy Media Literacy ICT (Information, Communications and Technology) Literacy	Flexibility and Adaptability Initiative and Self -Direction Productivity and Accountability Leadership and Responsibility

- [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)