WEST SHORE SCHOOL DISTRICT

Algebra II Essentials Learning Module 1

Title of Module	Intro/Review of Linear Algebra	**Grade Level**	10-12
Curriculum Area	Algebra II Essentials	**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.2.1.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.1 Interpret the structure of expressions to represent a quantity in terms of its context. CC.2.2.HS.D.7 Create and graph equations or inequalities to describe numbers or relationships.	CC.2.2.HS.D.8 Apply inverse operations to solve equations or formulas for a given variable. 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.	

Essential Questions	**Vocabulary (Best Practices)** Utilize concepts & competencies to add to vocabulary
Unit EQ: What are the essentials of Algebra I and why are they crucial for success in Algebra II? **LEQs** 1. How are numbers sorted into groups such as rational, irrational, integers, whole, and natural? 2. What are the rules for basic operations with fractions and integers? 3. How is the order of operations used to solve multi-step linear equations? 4. What is the difference between linear equations and inequalities? How are they solved and graphed? 5. What is absolute value and how does it impact the method of solution?	Integers Real Numbers Rational Numbers Irrational Numbers Equation Expression Inequality Absolute Value Solution Simplify
Concepts Students will know…	**Skills/Competencies (I Can…) Based on LEQs** Students will be able to…
1. How to simplify a variety of expressions involving fractions and variables. 2. How to solve a variety of multi-step equations, inequalities, and absolute-value equations	1. I can identify a number as an irrational, rational, integer, whole, or natural number and state the reason why 2. I can solve a variety of different linear equations and inequalities 3. I can solve and graph absolute value inequalities.

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**

Extended Thinking
Summarizing
Vocabulary in Context
Advance Organizers
Non-verbal Representation
Integration of Webb's Depth (examples)
Integration of 21st Century Skills (examples)
Reading and writing across disciplines (examples)
Differentiated options (examples)

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)