

Course: Algebra 1 Unit #/ Unit Name: Unit 1 - Expressions, Equations, and Inequalities	Year of Implementation: 2019-2020
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Stage One - Desired Results	
Link(s) to New Jersey Student Learning Standards for this course: https://www.state.nj.us/education/cccs/2016/math/standards.pdf	
Unit Standards: NJSLS.N-RN: B3 <ul style="list-style-type: none"> • Use properties of rational and irrational numbers. NJSLS.N-Q: A1-3 <ul style="list-style-type: none"> • Reason quantitatively and use units to solve problems. NJSLS.A-CED: A1-4 <ul style="list-style-type: none"> • Create equations that describe numbers or relationships. NJSLS.A-REI:A-1,2; B3; C5-6; D10-12 <ul style="list-style-type: none"> • Understand solving equations as a process of reasoning and explain the reasoning. • Solve equations and inequalities in one variable. • Solve systems of equations. • Represent and solve equations and inequalities graphically. 	

- Represent and solve equations and inequalities graphically.

Transfer Goal(s): Students will be able to independently use their learning to solve problems and determine the validity of a solution.

Enduring Understandings

Students will understand that. . .

EU1

real world situations can be represented symbolically and graphically.

EU2

there can be different strategies to solve a problem, but some are more effective and efficient than others are.

Essential Questions

EU1

- How do I use algebraic expressions to analyze or solve problems?
- How is thinking algebraically different from thinking arithmetically?

EU2

- How do I decide which strategy will work best in a given problem or situation?

Knowledge

Students will know. . .

EU1

- real life situations can be interpreted and represented using inequalities and equations.

EU2

- appropriate operations are required when solving equations and inequalities.

Skills

Students will be able to. . .

EU1

- identify the common sets of numbers.
- write solutions using interval notation.
- write algebraic expressions.
- rewrite and use literal equations and formulas.
- identify and use properties of real numbers.

EU2

- solve equations and identify those with infinite or no solutions.
- write, graph, and identify solutions of inequalities.
- solve equations and inequalities involving absolute value.
- use order of operations to evaluate expressions.

- solve equations and inequalities.

Stage Two - Assessment

Other Evidence:

- Tests on real number systems, solving multi-step and absolute value, applications with equations, and solving inequalities.
- Quizzes on identifying the common sets of numbers and solving multi-step linear/absolute value equations.
- Answer key to assess the above task.
- Assessed Elements from Recommended Performance Task
- Other teacher-graded evaluations
- Cumulative Benchmark Assessment at end of each marking period.

Stage Three - Instruction

Learning Plan: **Suggested Learning Activities to Include Differentiated Instruction and Interdisciplinary Connections:** Each learning activity listed must be accompanied by a learning goal of A= Acquiring basic knowledge and skills, M= Making meaning and/or a T= Transfer.

Activities:

- Real Number System – Notes & Practice (Google Drive) - (M – EU1, EU3)
- Solving Linear Equations (Google Drive) - (M - EU2)
- Writing and Solving Equations: Algebra-Thon (Google Drive) – (T – EU2)
- Solving Equations Word Problems: Meaning Making (Google Drive) – (M – EU2)
- TI-Nspire: Introducing Absolute Value <http://education.ti.com/calculators/timath/US/Activities/Detail?sa=5022&id=8743> (A-EU1, EU2, EU3)

Critical Vocabulary: *The following terms should be utilized...*

-absolute value	-dependent	-formula	-order of	-set-builder	-variables
-algebraic	-elimination	-identity	operations	notation	-irrational numbers
expression	-equation	-independent	-proportion	-solution	-radical
-boundary	-equivalent	-interval notation	-ratio	-solve an equation	-rational numbers
-coefficient	equations	-literal equation	-rate	-substitution	-real number
-compound		-multi-step	-reciprocal	-term	
inequality		equations			

The following is the suggested sequence of learning activities for the Algebra I ACC class. Adjustments should be made accordingly for other levels.

- The Real Number System (classifying numbers, true/false statements, always/sometimes/never, rational vs. irrational)
- Operations on Real Numbers
- Evaluate Expressions
- Solve Linear Equations
 - Single step
 - Multi step
 - Variable on both sides
 - Proportions
 - Clear Fractions and Decimals
- Solve Literal Equations & Formulas
- Solve Inequalities
- Solve Compound Inequalities
- Solve Absolute Value Equations
- Solve Absolute Value Inequalities
- Applications with Equations
- Performance Task