MP3a-Equations and Inequalities

Content Area: **Math**
Course(s): **Math 6 ACC**
Time Period: **Marking Period 3**
Length: **Weeks 1-4 Go Math! Advanced Unit 5**
Status: **Published**

Essential Questions

- How can you use equations and relationships to solve real world problems?

- How can you use relationships in two variables to solve real world problems?

Big Ideas

- Compute fluently with multi-digit numbers and find common factors and multiples.
- Apply and extend previous understandings of numbers to the system of rational numbers.
- Apply and extend previous understandings of arithmetic to algebraic expressions.

Cross Curricular Integration

Integration Area: Language Arts

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

NJSLSA.W6 . Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.

NJSLSA.W8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

NJSLSA.W9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Activity:

The students will use online and print resources to research a career that uses math on a daily basis. They will

use the writing process to write two informative/explanatory essays that discuss how the career integrates mathematics and to how the career benefits society. The students will represent their career in three forms: Presentation, poster display, and Google Slides. They will upload their Slides onto their Google Classroom site. The students will be given an opportunity to dress up as their profession during their presentation.

Technology Connection

• 8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose.

Enduring Understandings

The Number System

6.NS.6b   Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.

6.NS.6c   Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.

Expressions and Equations

6.EE.2a Write, read, and evaluate expressions in which letters stand for numbers.   Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation "Subtract y from 5" as 5-y.

6.EE.5 [M]   Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.

6.EE.7   Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.

6.EE.8 Write an inequality of the form $x>c$ or $x<c$ to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form $x>c$ or $x<c$ have infinitely many solutions; represent solutions of such inequalities on number line diagrams.

6.EE.9 Use variables to represent two quantities in a real world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation.

Mathematical Practices Focus

1. Make sense of problems and persevere in solving them. Lesson 12.3,

2. Reason abstractly and quantitatively. Lesson 11.1, 11.2, 11.3, 11.4, 12.1,12.4

3. Construct viable arguments and critique the reasoning of others. Lesson 11.1, 11.2, 11.3,11.4, 12.1, 12.2, 12.3,12.4

4. Model with mathematics. Lesson 11.1, 11.2, 11.3,11.4, 12.1, 12.2, 12.3, 12.4

5. Use appropriate tools strategically. Lesson 11.3,

6. Attend to precision. Lesson 11.2, 11.3, 12.1, 12.2, 12.3, 12.4

7. Look for and make use of structure. Lesson 11.1, 11.2, 11.3,11.4, 12.1, 12.2, 12.3,12.4

8. Look for and express regularity in repeated reasoning. Lesson 11.2, 12.1, 12.2, 12.3