Unit 1a-Numbers Systems and Operations

Content Area: **Math**
Course(s): **Math 6 Honors**
Time Period: **Marking Period 1**
Length: **Weeks 2-10 Into Math Advanced Unit 1**
Status: **Published**

Essential Questions

- How can you use integers to solve real-world problems?
- How can you use greatest common factors and least common multiples to solve real-world problems?
- How can you use rational numbers to solve real-world problems?
- How can you use operations with fractions to solve real-world problems?
- How can you use operations with decimals to solve real-world problems?

Big Ideas

- Identify, compare and order integers and rational numbers.
- Understand and interpret absolute value
- Find and use the greatest common factor and least common multiple.
- Multiplication and division of fractions and mixed numbers
- Multiplication and division of decimals.
- Addition, subtraction, multiplication, and division of integers

CSDT Technology Integration

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

8.1.8.NI.3: Explain how network security depends on a combination of hardware, software, and practices that control access to data and systems.

Activity:

Dream Vacation Project. Students use Google Slides to create a presentation on their dream vacation. This project forces students to efficiently and swiftly navigate the internet and different websites to find airfare, hotel rooms, travel expenses, excursions, restaurants, etc. to plan their dream vacation to anywhere in the

world. Students make a 5 day vacation scenario and describe the activities and events each day of the trip. They must keep track of websites visited and produce a final work cited page. Students are also responsible for keeping track of how much everything costs and create a final expenses sheet that describes everything they paid for and a total for their vacation

Enduring Understandings

The Number System

6.NS.4 Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. For example, express 36 + 8 as 4 (9 + 2).

6.NS.5 [M] Understand that positive and negative numbers are used together to describe quantities having opposite directions or values

6.NS.6 [M] 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.

6.NS.6c[M] 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.

6.NS.7a [M] Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. For example, interpret –3 > –7 as a statement that –3 is located to the right of –7 on a number line oriented from left to right.

6.NS.7b [M] Write, interpret, and explain statements of order for rational numbers in real-world contexts. For example, write –3 oC > –7 oC to express the fact that –3 oC is warmer than –7 oC.

6.NS.7c [M] Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. For example, for an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars.

Mathematical Practices Focus

1. Make sense of problems and persevere in solving them. Lesson 2-1, 2-2

2. Reason abstractly and quantitatively. Lesson 1-1, 1-2, 2-1, 2-2, 3-1, 3-2

3. Construct viable arguments and critique the reasoning of others. Lesson 1-1, 1-3, 2-2, 3-1, 3-2, 3-3

4. Model with mathematics. Lesson 1-1, 1-2, 1-3, 3-1, 3-2, 3-3

5. Use appropriate tools strategically. Lesson 1-1, 1-2,

6. Attend to precision. Lesson 1-3, 2-1, 3-1

7. Look for and make use of structure. Lesson 1-1, 1-2, 1-3, 2-2, 3-1, 3-2, 3-3

8. Look for and express regularity in repeated reasoning. Lesson 1-2, 1-3, 2-2, 3-1, 3-2, 3-3