Math 7

Rational Numbers - Unit 5

Unit Overview

In this unit, students will expand their understanding of rational numbers to include operations with all signed numbers, represented as decimals or fractions. They will revisit concepts like opposites, absolute value, and real-world applications such as temperature and elevation. Students will solve problems involving addition, subtraction, multiplication, and division of rational numbers, using tools like number lines, tables, and equations to represent and compute values. They will also work with expressions and equations involving variables and explore the meaning of solutions in various contexts. The unit concludes with students applying their skills to interpret and solve real-world problems, including those related to stock-market scenarios.

One note about this unit is that because it is based on computational skills, students will not be allowed to use their calculators.

Significant concepts/content/skills

In this unit, we will explore the big question: How can understanding and working with rational numbers help us solve real-world problems such as changes in temperature and elevation and financial situations such as interest and depreciation?

Concepts and Procedures

- I can apply addition and subtraction to rational numbers, including negative and positive fractions and decimals. I can represent these operations on number lines and in tables, and I understand how to express these relationships in equations.
- I can multiply and divide rational numbers (including fractions, decimals, and signed numbers) in real-world contexts. I can interpret multiplication and division as changes in position, direction, or rate and solve related problems using number line diagrams and equations.
- I can represent and solve problems using expressions and equations involving rational numbers. I can apply my understanding of the four operations to solve

multi-step problems, including those involving real-world scenarios such as temperature, elevation, and stock-market changes.

Communicating & Reasoning

- I can explain my understanding of rational numbers using number lines, tables, and terms like absolute value and signed numbers.
- I can justify the steps I take to add, subtract, multiply, and divide rational numbers in real-world contexts.
- I can solve problems involving rational numbers and explain how operations relate to real-life situations, such as temperature changes and rates.

Problem Solving and Modeling

- I can apply strategies to solve complex, real-world problems.

Assessments & Pacing

You can expect to have one assessment during this unit.

- A unit test will be the assessment we take after you have learned our major concepts and content.
- There will also be quizzes, exit tickets, and daily skills checks along the way.

We should have this unit wrapped up by mid - February.

Prerequisites Skills for Unit 5

If you are looking for ways to practice at home to prepare for this unit you can work on:

- Understanding and applying basic operations with whole numbers, fractions, and decimals.
- Recognizing and representing fractions, decimals, and percentages.
- Understanding the difference between positive and negative numbers.
- Familiarity with simple word problems involving real-world contexts, such as temperature changes and rates.

Should I have any questions or concerns about your child's progress in this unit, I will contact you. Should you have questions or concerns, please email Anne Stevens at astevens@acsamman.edu.jo or Drew Cool at dcool@acsamman.edu.jo.