MP4b-The Number System

Content Area:MathCourse(s):Math 6 ACCTime Period:Marking Period 4Length:Weeks 3-8 Go Math! Advanced Unit 8Status:Published

Essential Questions

- How can you use addition and subtraction of integers to solve real-world problems?
- How can you use multiplication and division of integers to solve real-world problems?
- How can you use rational numbers to solve real-world problems?

Big Ideas

- Add and subtract integers with the same and different signs.
- Multiply and divide integers and use integer operations to solve problems.
- Convert rational numbers to decimals.
- Add and subtract rational numbers.

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:

Students conduct research to find real-world examples of negative rational numbers and then write problems involving those numbers. The real-world connection should be detailed and explained in the report.

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

7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

7.NS.1c Understand subtraction of rational numbers as adding the additive inverse, p-q=p+(-q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.

7.NS.1d Apply properties of operations as strategies to add and subtract rational numbers.

7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.

7.NS.2d Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.

7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.

Mathematical Practices Focus

1. Make sense of problems and persevere in solving them. Lesson 17.4, 18.2, 19.6

2. Reason abstractly and quantitatively. Lesson 17.1, 17.2, 17.3, 17.4, 18.1, 18.2, 18.4, 19.1, 19.2, 19.3, 19.4

3. Construct viable arguments and critique the reasoning of others. Lesson 17.1, 17.2, 17.3, 18.2, 18.4, 19.1,

19.2, 19.3, 19.4, 19.6

4. Model with mathematics. Lesson 17.1, 17.2, 17.3, 17.4, 18.1, 18.4, 19.1, 19.2, 19.3, 19.4, 19.5, 19.6

5. Use appropriate tools strategically. Lesson 17.1, 17.2, 19.1, 19.6

6. Attend to precision. Lesson 17.1, 17.3, 18.1, 18.2, 18.4, 19.1, 19.5, 19.6

7. Look for and make use of structure. Lesson 17.1, 17.2, 17.3, 17.4, 18.1, 18.2, 18.4, 19.1, 19.2, 19.4, 19.5, 19.6

8. Look for and express regularity in repeated reasoning. Lesson 17.3, 18.1, 18.2, 18.4, 19.1, 19.5