

Figure 8.12. Operating on Integers Lesson Plan – Day 3

Date: 10/12

Understand that positive and negative numbers are used together to describe quantities having opposite directions or values.

Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers (*Integers only in this unit*); represent addition and subtraction on a horizontal or vertical number line diagram.

Highlighted Standards for Mathematical Practice:

SMP1: Make sense of problems and persevere in solving them

SMP2: Reason abstractly and quantitatively

SMP4: Model with Mathematics

SMP5: Use appropriate tools strategically.

SMP8: Look for and express regularity in repeated reasoning.

Know:

- Vocabulary: absolute value, integer, negative, number system, opposite, positive, zero pair
- The layout of a number line
- How to model integers and integer operations with two-colored counters and number lines
- Notation

Understand:

- A negative in mathematics always means “the opposite.”
- Mathematical operations apply to and follow the same patterns within our number systems and mathematical disciplines.

Be able to Do:

- Model integers and integer operations in different ways

Whole Class

1. Discuss the addition context problems from yesterday. How did having stories (situations/contexts) help in solving the problems? How did it make things more difficult or challenging?

2. Today we are going to practice adding integers. Let's practice a few together. Have 2 students come up to board to model the number line method and 2-color counter method for solutions for each problem. Rest of students work at desk with either model they prefer and hold up final solutions on white boards

3. We are going to play integer addition war today. Explain rules and show accountability sheet.

Partner Work (Partners by choice):

Play Integer Addition War

Circulate as partners play and check accountability sheet – challenge some students to play double -digit addition war if ready.

Whole Class

Post a long list of addition equations on the board. Challenge students to see if they can recognize any patterns in the types of integers being added, and any short cut methods they might see from the patterns.

Formative Assessment/ Check for Understanding: White board answers during whole class opening, integer war accountability sheets.