

Core Content

Cluster Title: Apply and extend previous understandings of numbers to the system of rational numbers.

Standard 7: Understand ordering and absolute value of rational numbers.

d. Distinguish comparisons of absolute value from statements about order. For example, recognize that an account balance less than -30 dollars represents a debt greater than 30 dollars.

MASTERY Patterns of Reasoning:

Conceptual:

Understand that as the value on a negative rational number decreases, its absolute value increases.
Understand that rational numbers can be ordered based on their magnitude.

Procedural:

Compare absolute values of rational numbers.
Order rational numbers by magnitude.

Representational:

Model comparisons of absolute values on a number line
Order rational numbers on a number line.

Supports for Teachers

Critical Background Knowledge

Conceptual:

Have experience with number line usage.
Understand integers.

Procedural:

Compare values of integers.

Representational:

Model comparisons of integers.
Express comparisons of integers with correct notation.

Academic Vocabulary and Notation	
<, >, =, absolute value, decrease, increase	
Instructional Strategies Used	Resources Used
1. Make integer placards for each student (be sure to include 0 in the set). Have students line up from least to greatest as integers and then as absolute values.	http://mathforum.org/library/drmath/view/57177.html
Assessment Tasks Used	
<p>Skill-based Task: You are \$35 dollars in debt. Write your debt using mathematical symbols. How much do you need to earn to be out of debt?</p>	<p>Problem Task: A mother dolphin is 150.25 meters below sea level. Her calf is 45 meters below sea level. Which dolphin is farthest from the surface? A mother whale is at 35 meters below the surface and her calf is at the surface. How far does the calf have to swim to get to its mother? Which statement deals with absolute value? Which statement deals with ordering? Justify your answer.</p>