

## 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.

a. 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.

**MASTERY Patterns of Reasoning:**

**Conceptual:**

Understand ordering of rational numbers, numbers are progressively smaller the further to the left you go on the number line.

Understand that a statement of inequality represents the relative position of the numbers on a number line.

**Procedural:**

Identify rational numbers on a number line.

Compare rational numbers using inequality symbols.

**Representational:**

Represent inequalities on a number line and interpret their meaning in words.

## Supports for Teachers

**Critical Background Knowledge**

**Conceptual:**

Know the words and symbols for less than and greater than.

**Procedural:**

Correctly read inequalities.

**Representational:**

Write inequalities.

Model inequalities with manipulatives, diagrams and story contexts.

<b>Academic Vocabulary and Notation</b>	
<, >, inequality, rational numbers	
<b>Instructional Strategies Used</b>	<b>Resources Used</b>
<p>Give students a rational number and have them stand in order from least to greatest on the number line.</p> <p>Make flashcards of rational number and play “war.”</p> <p>Have the students create statements of inequality (e.g., <math>-9 &lt; \frac{1}{2}</math>) and interpret them by writing out the inequality and its meaning in a sentence or sentences, as in “Negative 9 is less than <math>\frac{1}{2}</math> means that negative nine is to the left of <math>\frac{1}{2}</math> on the number line. Negative nine is nine and one half positions to the left of <math>\frac{1}{2}</math>”).</p>	
<b>Assessment Tasks Used</b>	
<p><b>Skill-based Task:</b> Compare rational numbers using symbols of inequality.</p>	<p><b>Problem Task:</b> On Tuesday the temperature was <math>-7^{\circ}\text{F}</math> and on Wednesday the temperature was <math>-5^{\circ}\text{F}</math>. Which day was colder? Write the inequality and show it on a number line. Explain how you know your answer is correct.</p>

### Core Content

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

**Standard 8:** Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

**Concepts and Skills to Master**

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### Supports for Teachers

**Critical Background Knowledge**

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**Academic Vocabulary**

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<b>Instructional Strategies Used</b>	<b>Resources Used</b>
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**Assessment Tasks Used**

<b>Skill-based Task:</b>	<b>Problem Task:</b>
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