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| **Which Days are Coldest?- 6.NS.7** | |
| **Domain** | **The Number System** |
| **Cluster** | **Apply and extend previous understandings of numbers to the system of rational numbers.** |
| **Standard(s)** | **6.NS. 7** Understand ordering and absolute value of rational numbers.  **6.NS.7a** 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.  **6.NS.7b** Write, interpret, and explain statements of order for rational numbers in real-world contexts. For example, write –3 degrees C > –7degrees C to express the fact that –3 degrees C is warmer than –7 degrees C.  **6.NS.5** Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. |
| **Materials** | Activity sheet |
| **Task** | **Which Days are Coldest?**  Last week the high temperatures in North Dakota were as follows:  Monday: 6 degrees above 0 degrees Celsius  Tuesday: 3 degrees below 0 degrees Celsius  Wednesday: 6 degrees below 0 degrees Celsius  Thursday: 4 degrees below 0 degrees Celsius  Friday: 3 degrees above 0 degrees Celsius  Part 1: Make a number line and plot the points on the number line.  Part 2:  On which days were the temperatures the same distance from 0? Explain how you know.  Part 3:  List the temperatures in ascending order.    Part 4:  Write an explanation about how you know which day is the coldest. |

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| **Rubric** | | |
| **Level I** | 1. **Level II** | **Level III** |
| Developing Proficiency   * Student uses inappropriate solution strategy and does not get the correct answer. | Not Yet Proficient   * There are one or two errors. | Proficient in Performance   * Accurately solves problem * Part 1: The number line has points plotted correctly. * Part 2: The temperatures 6 and -6 are the same distance from 0. So are the temperatures 3 and -3. * Part 3: -6, -4, -3, 3, 6 * Part 4: The explanation should clearly and accurately state that negative numbers are smaller and -6 degrees is the farthest negative number from 0. |

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| **Standards for Mathematical Practice** |
| **1. Makes sense and perseveres in solving problems.** |
| **2. Reasons abstractly and quantitatively.** |
| **3. Constructs viable arguments and critiques the reasoning of others.** |
| 4. Models with mathematics. |
| 5. Uses appropriate tools strategically. |
| **6. Attends to precision.** |
| 7. Looks for and makes use of structure. |
| 8. Looks for and expresses regularity in repeated reasoning. |

**Which Days are Coldest?**

Last week the high temperatures in North Dakota were as follows:

Monday: 6 degrees above 0 degrees Celsius

Tuesday: 3 degrees below 0 degrees Celsius

Wednesday: 6 degrees below 0 degrees Celsius

Thursday: 4 degrees below 0 degrees Celsius

Friday: 3 degrees above 0 degrees Celsius

Part 1:  
Make a number line and plot the points on the number line.

Part 2:   
On which days were the temperatures the same distance from 0? Explain how you know.

Part 3:

List the temperatures in ascending order.

Part 4:

Write an explanation about how you know which day is the coldest.