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| **The Highest Place- 6.NS.6** | |
| **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** | **The Highest Place**  Part 1:  Draw a vertical number line and label all of the locations visited by a hiker in South America.   1. He starts 8 meters above sea level. 2. From 8 meters above sea level, he travels to a lower point until he is the same distance from 0 but below sea level. 3. He then moves 1 meter higher. 4. Next he moves higher until he is the same distance from 0 but above sea level. 5. He then moves 2 meters lower. 6. He then moves lower until he is the same distance from 0 but below sea level. 7. He returns to sea level.   Part 2:  Name all the pairs of points visited that are the same distance from 0. Example: 4 meters above sea level (4) and 4 meters below sea level (-4).  Part 3:  List the locations in order from highest place to the lowest place.  Part 4:  Which point is the highest point that is below sea level. Explain how you know that you are correct. |

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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: A (8) and B (-8); C (-7) and D (7); E (5) and F (-5) * Part 3: 8, 7, 5, -5, -7, -8. * Part 4: The highest point below sea level is -5. It is the negative number that is closer to 0 than any other points. The explanation is clear and accurate. |

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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. |

**The Highest Place**

Part 1:

Draw a vertical number line and label all of the locations visited by a hiker in South America.

1. He starts 8 meters above sea level.
2. From 8 meters above sea level, he travels to a lower point until he is the same distance from 0 but below sea level.
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7. He returns to sea level.

Part 2:

Name all the pairs of points visited that are the same distance from 0. Example: 4 meters above sea level (4) and 4 meters below sea level (-4).

Part 3:

List the locations in order from highest place to the lowest place.

Part 4:

Which point is the highest point that is below sea level. Explain how you know that you are correct.