|  |  |
| --- | --- |
| **More than Him But Less than Her- 6.EE.8** | |
| **Domain** | **Expressions and Equations** |
| **Cluster** | **Reason about and solve one-variable equations and inequalities.** |
| **Standard(s)** | **6.EE.8** Write an inequality of the form x > c or x < c to represent a constraint or condition in a real-world or mathematical problem. Recognize that inequalities of the form x > c or x < c have infinitely many solutions; represent solutions of such inequalities on number line diagrams.  **6.EE.5** Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true. **6.EE.6** Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set. |
| **Materials** | Activity sheet |
| **Task** | **More than Him But Less than Her**  While comparing the amount of stickers that they each have, Sally tells Mitch and Tara, “I have more than Mitch, but less than Tara.”  Part 1:  Write 2 separate inequalities that express the amount of stickers that Sally has (*S*) related to Mitch and Tara.  Part 2:  Sally then tells Mitch and Tara, “I have less than twice as much as Mitch, and I have less than the number Tara would have if she gave away half of her stickers. Write 2 separate inequalities that express the amount of stickers that Sally has (*S*) related to Mitch and Tara.  Part 3:  If Sally has as few as 10 or as many as 20 stickers, how many stickers could Mitch and Tara have?  Part 4:  Write an explanation about how you solved Part 3. |

|  |  |  |
| --- | --- | --- |
| **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: *S >* *M; S* < *T* * Part 2: *S* < 2*M*; *S* < (*T*/2) * Part 3: If Sally has 10 stickers Mitch has between 6 and 9 stickers. Tara has more than 21 stickers.   If Sally has 20 stickers, Mitch has between 11 and 19 stickers. Tara has more than 41 stickers.   * Part 4: The explanation is clear and accurate. |

|  |
| --- |
| **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. |

**More than Him But Less than Her**

While comparing the amount of stickers that they each have, Sally tells Mitch and Tara, “I have more than Mitch, but less than Tara.”

Part 1:

Write 2 separate inequalities that express the amount of stickers that Sally has (*S*) related to Mitch and Tara.

Part 2:

Sally then tells Mitch and Tara, “I have less than twice as much as Mitch, and I have less than the number Tara would have if she gave away half of her stickers. Write 2 separate inequalities that express the amount of stickers that Sally has (*S*) related to Mitch and Tara.

Part 3:

If Sally has as few as 10 or as many as 20 stickers, how many stickers could Mitch and Tara have?

Part 4:

Write an explanation about how you solved Part 3.