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| **Children’s Ages- 6.EE.2** | |
| **Domain** | **Expressions and Equations** |
| **Cluster** | **Apply and extend previous understandings of numbers to the system of rational numbers.** |
| **Standard(s)** | **6.EE.2** Write, read, and evaluate expressions in which letters stand for numbers.  **6.EE.2a** Write expressions that record operations with numbers and with letters standing for numbers. *For example, express the calculation “Subtract y from 5” as 5 – y*.  **6.EE.2c** Evaluate expressions at specific values of their variables. Include expressions that arise from formulas used in real-world problems. Perform arithmetic operations, including those involving whole-number exponents, in the conventional order when there are no parentheses to specify a particular order (Order of Operations). *For example, use the formulas V = s3 and A = 6 s2 to find the volume and surface area of a cube with sides of length s = 1/2*. |
| **Materials** | Activity sheet |
| **Task** | **Children’s Ages**  Sally, Mike, and Joe are in the same family.  Sally is *y* years old.  Mike is the difference between 20 and Sally’s age.  Joe is four years less than triple Sally’s age.  Part 1: Write expressions for Mike and Joe’s age in terms of the Sally’s age (*y*).  Part 2:  If Sally’s age were 5 years old how old would Mike and Joe be? Write equations and an explanation about how you solved this part of the task.  Part 3:  How old would Sally have to be if Sally and Mike were the same age? Write an equation and explain how you solved this part of the task. |

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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. All explanations are clear and accurate. * Part 1: Mike: 20- *y*; Joe: 3y – 4 * Part 2: If Sally (*y*) = 5, Mike would be 3x5 = 15 and Joe would be 3x5 – 4 = 11. * Part 3: If Sally and Mike were the same age, Sally would have to be 10. |

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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. |

**Children’s Ages**

Sally, Maria, and Joe are in the same family.

Sally is *y* years old.

Mike is the difference between 20 and Sally’s age.

Joe is four years less than triple Sally’s age.

Part 1:  
Write expressions for Mike and Joe’s age in terms of the Sally’s age (*y*).

Part 2:

If Sally’s age were 5 years old how old would Mike and Joe be? Write equations and an explanation about how you solved this part of the task.

Part 3:

How old would Sally have to be if Sally and Mike were the same age? Write an equation and explain how you solved this part of the task.