**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Early Algebra Interview Activity**

Two suggested interviews follow the Benchmarks for Concepts of Equality. The first, Children’s Understanding of Equality, is recommended for lower primary grades (K-1), and the second, Children’s Relational Thinking, is recommended for upper primary grades (2-3).

1. Take one of these interviews yourself, and rate your own level (1, 2, 3, or 4), along with your rationale for this rating.

2. Then interview a child, record only their first name and grade level, and assess their level on this benchmark (1, 2, 3, or 4), along with your rationale. You may wish to provide some sort of manipulative for the child to use to directly model these problems, such as Unifix or multilink cubes, base 10 blocks, color tiles, pennies, or any other countable item.

 Also feel free to make adjustments to the interview with a child as you pursue their personal growth in understanding!

**Benchmarks for Conceptions of Equality**
(*Thinking Mathematically*, pp. 19-20)

1. Children are specific about what they think the equal sign means. For example, typical misconceptions for the open sentence
8 + 4 = \_\_\_ + 5 include:

* + The answer comes next (the answer is 12).
	+ Use all of the numbers (the answer is 17).
	+ Extend the problem (the answers are 12 and 17).

2. Children accept as true some number sentences that are not of the form a + b = c.

 Examples: 8 = 5 + 3 8 = 8 3 + 5 = 8 + 0 3 + 5 = 3 + 5

 9 + 2 = 2 + 9

3. Children recognize that the equal sign represents a relation between two equal numbers, often by carrying out the calculations on each side of the equal sign and comparing those results.

4. Children are able to compare the mathematical expressions without actually carrying out the calculations.

**Interview on Children’s Understanding of Equality**

Name: \_\_\_\_\_\_\_\_\_\_\_ Grade Level: \_\_\_\_\_

Fill in the blank to make the open sentence true. 4 + 7 = + 3

True or False. 7 + 4 = 11

 11 = 4 + 7

 11 = 11

 4 + 7 = 7 + 4

 7 + 4 = 11 + 0

 4 + 7 = 0 + 11

Fill in the blank to make the open sentence true. 4 + 7 =

 = 4 + 7

 11 =

 4 + 7 = + 3

9 + 5 = + 6

17 = 9 +

 25 + 18 = 23 +

**Interview on Children’s Relational Thinking**

Name: \_\_\_\_\_\_\_\_\_\_\_ Grade Level: \_\_\_\_\_

Fill in the blank to make the open sentence true. 9 + 5 = + 4

Fill in the blank to make the open sentence true. 15 + 5 = + 14

True or False. 17 + 19 = 17 + 19

 12 + 20 = 13 + 19

 15 + 18 = 16 + 17

 20 + 30 = 21 + 29

 33 + 12 = 32 + 13

 41 + 19 = 42 + 18

Fill in the blank to make the open sentence true.

 15 + 18 = 15 +

15 + 18 = 16 +

 23 + 18 = 22 +

 44 + 27 = + 43

Extras: 52 + 47 = 50 + \_\_\_ 49 + 34 = \_\_\_ + 46 3 × 8 = 6 × \_\_\_