Grade Level/Course: Kindergarten/1st grade
Lesson/Unit Plan Name: Exploring Equality
Rationale/Lesson Abstract: Students will explore the concept of equality using manipulatives.
Timeframe: 1-2 days
Common Core Standard(s):   **K.OA.1**   Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps) acting out situations, verbal explanations, expressions, or equations.   **1.OA.7**   Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? $6 = 6$, $7 = 8 - 1$, $5 + 2 = 2 + 5$, $4 + 1 = 5 + 2$.

Instructional Resources/Materials:

*Optional: Equal Shmequal by Virginia Kroll -

For Demonstration teacher will need:
- Balance scale
- Red/blue/black White board markers
- Red/blue/black unifix cubes

For activity each pair of students need:
- 10 black, 10 red and 10 blue unifix cubes (separated into single cubes in a small bag)
- Equality cards printed in color (blackline master included) cut up in an envelope or small bag*
- T278.:

Direct the student to add the red and blue cubes together to make one tower.
Match the red/blue tower to the black tower to prove that it is not equal because the towers are not the same size.

Change the equation on the board: **3 + 4   6**

Activity:

Put the students in partners and hand out one bag of cubes to each pair.
Have partners decide who will first be in charge of the red and blue cubes and who will be in charge of the black cubes. Explain that the students will take an Equality card out of the bag, prove it is true or not true and then sort the cards into the True/False graph

Each student chooses one card from the deck. They must create an expression with their two playing cards and then search for the note card that is equivalent. When they find it, they must create an equivalent equation using their equal sign notecard.

If they choose 2 cards whose sum is less than ten, they must put the two cards back in the deck randomly and choose again.

Students must record on a piece of paper or white board their two expressions as an equation.

(e.g. 5 + 8 = 10 + 3)

Return the cards to the deck and continue play.

Assessment:

While students are sorting their equations, make observational notes about how they prove whether an equation is equal or not equal.

Ask, "How do you know this equation is true? False?"

Give paper exit ticket to students after they have had ample practice. Students may use unifix cubes or drawings of cubes to help prove their answer.

True   False

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Name:_____

Circle all the equations that are correct.

$4 = 5$ $3 = 3$

$4 + 3 = 7$ $10 = 8 + 3$

$7 + 2 = 10$ $8 = 4 + 4$

Name:_____

Circle all the equations that are correct.

$4 = 5$ $3 = 3$

$4 + 3 = 7$ $10 = 8 + 3$

$7 + 2 = 10$ $8 = 4 + 4$

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