

# COMPARE, STEP 4

## Lesson Plan: Number Concept, Compare, Step 4

### Activity Screen Shot



### Theme Host: Chuck



### Animal Friend: Kodiak Bear



### OVERVIEW

Given an equation or inequality students concretize the relationship by creating two sets whose cardinalities represent the numbers in the given relation.

### PRINCIPAL LEARNING GOAL(S)

- Strengthen student understanding of equations/inequalities by translating a symbolic expression into a concrete example

### PREREQUISITE KNOWLEDGE AND SKILLS

- Practiced the act of counting physical objects
- Practiced creating a set of objects to match a given number

### RESOURCES NEEDED

- Lego blocks

### POTENTIAL DIFFICULTIES

- Any student still having difficulty representing a numeral with a number of objects (observe such difficulties when the student selects bears or hockey sticks to match given numbers), can be helped by being given Lego blocks to make the tasks physical. If difficulty persists, then the teacher may recommend additional practice of Count activities.

### WARM UP ~ 3-5 MINUTES

- Write three relations on the board, say  $3 < 5$ ,  $4 = 4$  and  $8 > 5$ .
- Ask students to create a situation using objects or people in the classroom to represent each of the 3 relations on the board. To do this, the teacher can decide to divide the class into 3 groups and each group takes care of one relation or have the whole class working on each relation together.
- Encourage the students to be creative by using objects or even creating a small play to represent the situation.

**CONSOLIDATION ~15 MINUTES**

To help students consolidate their new knowledge and make connections to prior learning, allow time for subsequent discussion. The questions below raise important issues:

1) *What did you have to do in this step?*

Listen to the students' answers. Make sure that the students talk about having to represent the relationship between the **NUMBER** of bears and the **NUMBER** of hockey sticks by creating sets of bears and hockey sticks.

2) *What was similar and what was different between this step and the previous steps?*

Listen to the students' answers and try to restate what they say using simple but appropriate terminology. This step differs from the previous three by reversing the process - moving from abstract symbols to concrete objects to help understand a relationship, rather than starting with concrete objects and using abstract symbols to express the relationship. The goal is to help develop the habit in students of concretizing abstract statements.

3) *In this step, how were you able to tell that the given relation was true?*

Hopefully the students will talk about the phase where the bears are matched to the hockey sticks. It is important to make sure that when they do this, they include all three possible cases. That is, they say that when the bears are matched to the hockey sticks that if: there are bears that don't get a stick, and all sticks are gone, then there were more bears than hockey sticks; there are hockey sticks that don't go to a bear, and all bears have a hockey stick, then there were less bears than hockey sticks; all bears and all hockey sticks were matched, then the number of bears is equal to the number of hockey sticks.

