*Compare Bear*

**Grade level:** Kindergarten

**Common Core Standard:**

K.OA: Represent addition & subtraction with objects, fingers, mental images, drawings, sounds (e.g. claps), and acting out situations, verbal explanations, expressions, or equations.

**Objectives:**

Students will be able to build on the concept of addition by finding and telling a “bear story” for more than one solution to a problem by adding number combinations of 10 using colored bears and number sentences.

**Materials:**

1. Red & Blue bears counters for each student

2. Number Mat for each student

3. Lined Paper

4. Pencil

5. Number Sentence Sheet for each student

**Procedure:**

**Introduction:**

1. In the previous day we discussed addition using two numbers and today we are going to continue building on creating number sentences and comparison stories.
2. Today we are going to play a game called, “Compare Bear”.
3. Start by saying to the children, “*I am going to drop the two bears onto the number mat and announce what numbers the bears land on/closest to: between 1 and 10.”*
4. Model for the children by counting the the two numbers the bears land on (i.e. 3 & 5). *“My bears landed on 3 & 5 and I know that the total number of those numbers is 8”.* (differentiation: *“The sum of the bears is 8”* )
5. Model for the students how to create a bear story, *“I had 3 red bears running around the forest and those 3 bears called 5 of their blue bear friends to come join the game, so now there are 8 bears”*.
6. Pass out materials to the children and tell them they are going to be doing bear stories, along with learning about simple number sentences. . **Students will be working in pairs.**
7. Make sure to focus on explaining the task clearly enough so that students can find different solutions to their stories/number sentences.
8. Students will take turns dropping bears on their number mats, stating the sum, and telling associated number-bear stories.
9. Encourage students to find different solutions and work on their story telling (word problems).
10. Walk around and observe what the children are doing
11. Once students have a basic understanding of the addition skills, they will practice writing number sentences based on the solutions they found and the stories they communicated to their partners.

**Assessment:**

Students will be observed throughout portions of the activity and through the observations the teacher will watch/listen/record which of the individual students are using the physical materials in creating word problems successfully and verbal skills to communicate to their partners. Using those word problems (bear stories) and prior knowledge of addition math facts, they will create number sentences that will be checked. As a whole class each group will provide at least 1 correct number sentence and the bear story that went along with the bears dropped to create them. Also, students will need to explain their understanding of addition by verbally explaining why it’s important they complete the process (not just doing the equations)and why it’s important they can verbally communicate their bear stories to other students (and how).

**Differentiation:**

1. Students who comprehend the addition of numbers through 10 could move up to addition of numbers through 15 or 20 or use subtraction in place of addition.
2. Students could also expand on addition by being given the “how many total bears” immediately and have the student drop one bear on the number mat. (For example: If there are 8 total bears & the student drops the red bear on 4, what number must blue bear be?)
3. Students who are struggling with numbers through 10 could be given number mats with the numbers through 5.
4. If students are struggling with creating a comparison addition story it could be eliminated from the objective or students could work in partners to complete their stories.

Justification:

This lesson allows students the students to investigate/inquire how to solve the problem on their own instead of it being a constant direct instruction style of teaching where the students are just learning the steps, but don’t actually understand the process of solving. Students need to understand how/why the problem is being written (conceptual understanding) and the concepts of the problem (procedural fluency- i.e. addition/subtraction for Kindergarteners).

 This activity allows students to consciously do both these things by using multiple techniques to create addition number sentences after creating word problems. During collaboration with a partner/assessment aspect, there will be time for the student to explain their thoughts on how they got to their answer and reasoning/justification of it (adaptive reasoning). The lesson allows the teacher to gauge where the students are developmentally and what they know/understand. It also allows the teacher to observe students ability to solve the problem (strategic competence). The lesson will builds on prior knowledge and walks the students through the creation of word problems. It moves progressively through concrete (manipulatives-bears) thinking to semi-concrete (drawing the pictures on the white board) and eventually to abstract computations (3+5=8). By allowing the students to make mistakes (with manipulative and/or dry erase boards) and not quit on their work they will find different ways of completing the problem (productive disposition).

**Reference:**

Reys, R., Lindquist, M., Lambdin, D., & Smith, N. (2012). Helping children learn mathematics. (10th ed.). Hoboken, NJ: John Wiley & Sons, Inc.

Taylor-Cox, J. (2007). Compare bear. Retrieved from https://gradekcommoncoremath.wikispaces.hcpss.org/file/view/Compare Bear.pdf