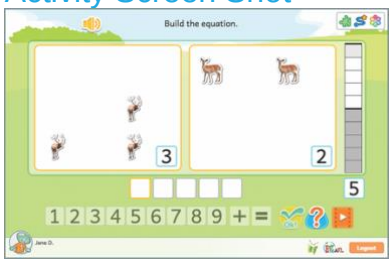
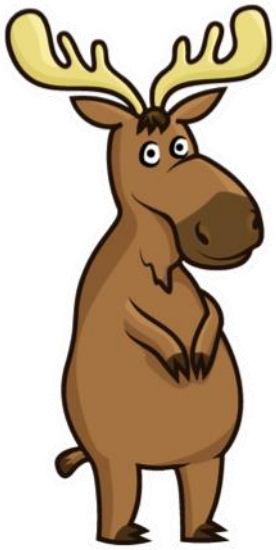
ADD, STEP 3

Lesson Plan: Number Concept, Add, Step 3

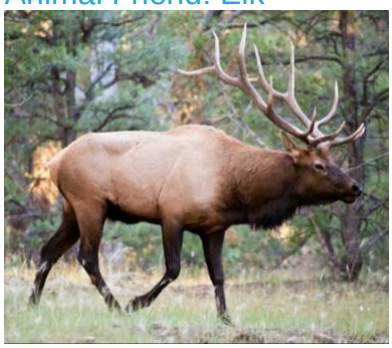
Activity Screen Shot



Theme Host: Chuck



Animal Friend: Elk



OVERVIEW

Students practice adding two integers via the metaphor of combining two sets of objects, and practice writing the corresponding mathematical expression, e.g., "2+1=3".

PRINCIPAL LEARNING GOAL(S)

- Reinforce the use of the counter as an aid in counting
- Reinforce the concept of addition as combining two sets of objects
- Write equations of the form “2+1=3” to represent combining two sets of objects/adding two numbers

PREREQUISITE KNOWLEDGE AND SKILLS

- Seen equations of the form "2+1=3" used to represent addition, in the context of combining two sets of objects

RESOURCES NEEDED

- Lego blocks or large coloured beads and three non-transparent bags

POTENTIAL DIFFICULTIES

- Students still experiencing difficulty in counting objects in sets (incorrect number of animals for either set) should be asked for strategies. If need be suggest possible strategies such as counting on fingers, pointing at each animal while counting aloud, or suggest a review of activities in Idea 1 (Count).
- Students still experiencing difficulty selecting a numeral to represent a set of objects (student counts aloud correctly but selects the wrong numeral) should review the Count (Idea 1) activities.
- Students still experiencing difficulty writing an appropriate equation, such as "2+1=3" to represent the operation of addition can be helped by reviewing Step 02 while you point at and ask what each number in the equation represents in the pictured scene.

WARM UP ~ 3-5 MINUTES

- Show students two non-transparent bags with objects inside (e.g., 3 and 5). Invite two students, each to count the objects in a different bag. As the students say their

count, mark the bag with the number.
- Ask for strategies for determining how many objects there would be if the two bags were combined and restate each. Since we cannot see the objects some strategies might not work. How would we describe mathematically what we want to do.
- Act out the process of addition by putting the two bags together inside a third bag, demonstrating the formation of the equation “3+5=8”. Ask what mathematical sign should be used between the two numbers 3 & 5 , i.e., 3___5. Then suggest the use of ? for the unknown number, the sum, i.e., 3+5=?.

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 was this step about? What were you supposed to do?*
   It is possible that students' descriptions of the problem is incomplete or that their wording is unclear. Help the students to describe the situation in detail using appropriate vocabulary, e.g., "mathematical equation", "sum", "add two numbers", etc.

2) *Thomas saw 3 deer in a field to his right, and he saw 6 deer in a field to his left. What mathematical equation do you think he wrote to explain what he saw?*
   Most likely students will either say "3+6=9" or "6+3=9". If the students actually answer you with something in this form, ask them what strategy they used to determine the third number, the one that they were not given in the story. If the students instead just say something like "3+6" or "6+3", then when writing it on the board, use a "?", as in "3+6=?" or "? = 6+3".

3) *Another student, Peter, tried to write down what he saw, and he wrote "5+3=4". Without counting to check what Peter wrote, can you tell me if he did this correctly? Explain!*
   Hopefully at least one student will say that if you already have 5 deer in one field (or 5 objects in one bag) and you combine them with more deer (or objects) from a second field, then you should get a result that is larger than either of the two original numbers and 4 is smaller than 5, not larger, so this is not possibly correct.

4) *Helen, recording what she saw, wrote "5+3=5". Without counting to check what Helen wrote, could this be correct? Explain!*
   Again, hopefully at least one student will say, if I was starting with 5 deer or 5 objects, and I add some additional objects, the result cannot end up being 5.