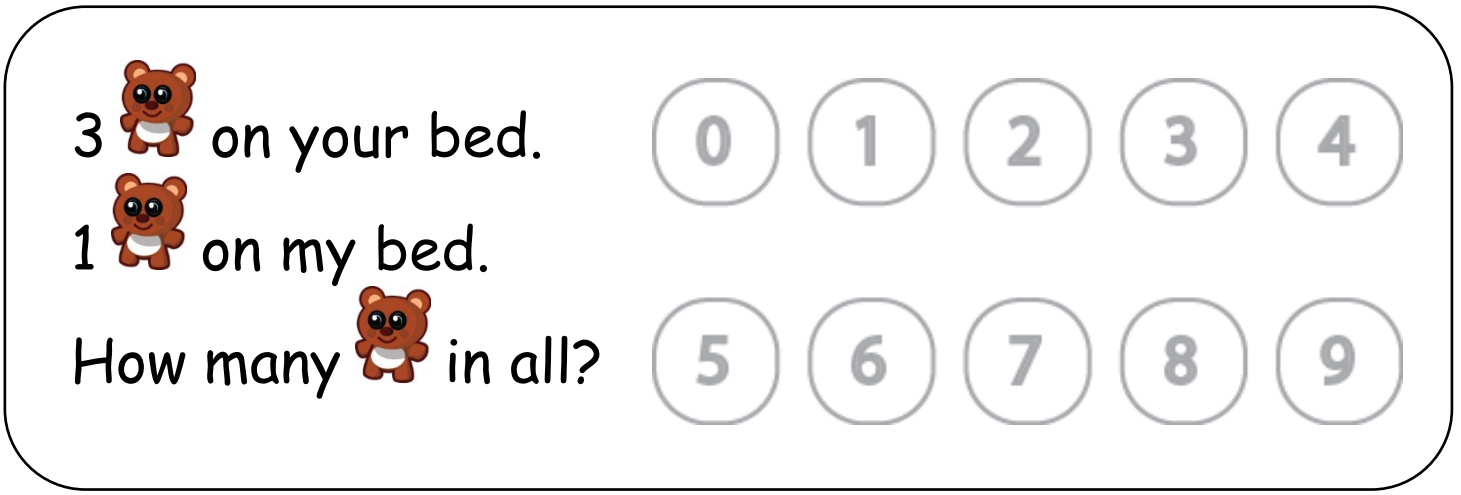
Grade K: Teddy Bears

K.OA.A.2 - Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

Instructions

Instruct students to solve the problem and shade in the correct answer. You may also read the question aloud to students, if you prefer. Ask students to explain their answer. This could be done in partners, small groups, or with the full class.



Solution

Correct if student shades in the number 4.

Potential strategies

- There are 3 teddy bears on your bed and 1 teddy bear on my bed, which makes 4 teddy bears all together (3 + 1 = 4).
- One way to calculate the answer is simply to know—thanks to experiences during the school year—that 3 + 1 = 4.
- Another way to calculate the answer is to know that "1 more than 3" will be the next counting number after 3. So, by this reasoning, "1 more than 3" equals 4.
- Some students might solve the problem by drawing circles or other marks that stand for the teddy bears. Then the student can simply count all of the circles as "1, 2, 3, 4." However, this strategy of counting all the objects would be more common in problems that have larger numbers, like 4 + 5. For a problem with very small numbers like 3 + 1, it is better if students have moved beyond the need to draw a picture or count all of the objects "1, 2, 3, 4."

Potential misconception

- If a student answers the problem incorrectly, ask how they solved the problem. It's possible they selected the wrong number by mistake, or had a hard time understanding the situation. You could set up the problem using pennies for the teddy bears. Place a group of three pennies on a table ("teddy bears on *your* bed"). Place 1 penny some distance away ("teddy bear on *my* bed"). Then ask the student to sweep the pennies together and tell how many there are in all. When the student sweeps the pennies together, they are acting out the central addition idea in the problem.

Extension

To extend this problem:

- Ask, "What if we move one teddy bear from your bed to mine? How many teddy bears in all then?" The answer is still 4, and if the student gives this answer right away, it suggests that they probably understand a key idea of counting objects: moving the objects around doesn't change how many there are.
- Choose different numbers (you'll probably want to make the sum no greater than 10).

Elaboration on Alignment

This is intended to be an easy problem, which is why both addends are small and one addend is 1.

There are two basic meanings or uses of addition: one is about joining together collections, and the other is about adding more to a collection. (One is atemporal; the other is temporal.) This problem involves the joining sense of addition. Having a collection of bears on one bed, and another collection of bears on another bed, is an on-the-nose situation for joining, because there is a spatial separation of the groups but no temporal development of the action.

Addition can be used to find the total when joining two groups together, as in this problem, and addition can also be used to find the total when adding more things to a group. The difference between joining groups and adding more to a group is often a matter of perspective.

In a problem like this, the strategy of "counting all" is the most primitive/concrete strategy available. Meanwhile, the strategy of "counting on" (knowing that adding 1 means going to the next number) is expected in grade 1, but some K students will have figured it out. The standards for Kindergarten do expect fluency within 5, which is why the "count all" strategy is not the ideal solution if this task is given towards the end of the year in Kindergarten. This is also why the problem does not include a cartoon showing the three teddy bears on one bed and the lone teddy bear on the other bed. In the Kindergarten curriculum for addition, many problems of this type would include such a cartoon. However, to include such a cartoon here would only prompt the strategy of "counting all." Students are certainly *allowed* to use "counting all" here, but the onus is placed on the student to choose that method only if it's the most comfortable option.

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https://bealearninghero.org/readiness-check/

Name: _____

3  on your bed.

1  on my bed.

How many  in all?

0 1 2 3 4

5 6 7 8 9