

NWEA Assessment Item Illustrating K.OA.A.4

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Domain: Operations and Algebraic Thinking

K.OA.A: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

Calculator Availability: No



There are 3 cherries in a bowl.

Move a group of cherries to the bowl so there are 10 cherries in the bowl in all.

The interface shows a light blue bowl containing 3 red cherries. Below the bowl, there are five groups of cherries arranged in two rows. The first group has 2 cherries (top row 1, bottom row 1). The second group has 4 cherries (top row 2, bottom row 2). The third group has 5 cherries (top row 2, bottom row 3). The fourth group has 6 cherries (top row 3, bottom row 3). The fifth group has 7 cherries (top row 3, bottom row 4).

Alignment: K.OA.A.4: For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

This item assesses students' ability to compose 10 when given a starting number of objects. Students combine their understanding of one-to-one correspondence when counting with either the counting-on strategy or addition to determine the number of cherries needed to compose 10. The item is purposely designed so that students click on groupings of cherries to demonstrate understanding without unnecessarily having to move multiple objects.

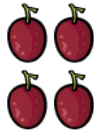
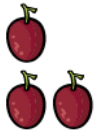
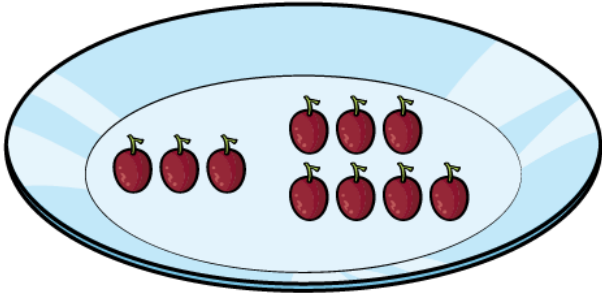
Coherence: K.OA.A.4 builds directly upon the K.OA.A.3 standard, in which students decompose numbers within 10, and it is connected to the counting work done in kindergarten.^{K.CC} Working with composing and decomposing within 10 supports fluency within 5 in kindergarten,^{K.OA.A.5} within 10 in grade 1,^{1.OA.A.6} and within 20 in grade 2.^{2.OA.B.2} As students compute with greater numbers, the work in K.OA.A.4 will support composing and decomposing tens when adding and subtracting.^{1.NBT.C.4, 2.NBT.B.7}

Rigor: This item attends to conceptual understanding, procedural skill, and application. Composing 10 requires conceptual understanding that multiple representations are possible for a given number. The item also attends to procedural skill because it requires grade-level computation to determine the number that will make 10. Because representations of real-world objects are used, this item is an application of mathematics in a real-world scenario.

Answer Key:

There are 3 cherries in a bowl.

Move a group of cherries to the bowl so there are 10 cherries in the bowl in all.



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