

# NWEA Assessment Item Illustrating 1.OA.A.2

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**Domain:** Operations and Algebraic Thinking

**1.OA.A:** Represent and solve problems involving addition and subtraction.

**Calculator Availability:** No



A vase has 6 red flowers, 4 blue flowers, and 3 yellow flowers.

How many flowers are there in all? Move a number to the line to show the answer.

\_\_\_ flowers

0	1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20	

**Alignment: 1.OA.A.2:** Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Learning to add more than two numbers is a key area of focus in grade 1. It supports the strategies that students use to add and subtract. If students understand that they can add more than two numbers together, this understanding can extend to composing and decomposing to make addition or subtraction easier. For example, in this item the number of flowers that students add is  $6 + 4 + 3$ . Students should have had enough experiences and discussions about making 10 that they will see that they can add 6 and 4 to make 10 and then add 3 to get 13. In another case, students may wish to decompose a number to simplify computation. For example, if students are adding  $9 + 4$ , they could decompose the 4 to  $1 + 3$ , add  $9 + 1$  to get 10, and then add  $10 + 3$ .

**Coherence:** This standard extends the problem-solving that students did in kindergarten<sup>K.OA.A.2</sup> and in 1.OA.A.1 by having them solve and represent addition problems with three addends instead of two. The emphasis in this standard on composing and decomposing a 10 builds upon work done in kindergarten.<sup>K.OA.A.4</sup> The work of representing in 1.OA.A.2 also supports understandings around finding unknowns in an equation, which is introduced in grade 1.<sup>1.OA.D.8</sup> Addition situations with more than two addends also enhance understanding of problem-solving with multiple categories and how to interpret data.<sup>1.MD.C.4, 2.MD.D.10</sup> In grade 2, students will expand their problem-solving skills to solve both one- and two-step addition and subtraction word problems within 100.<sup>2.OA.A.1</sup> In grade 3, students will solve two-step problems involving all four operations and a letter for the unknown.

**Rigor:** This item attends to conceptual understanding, procedural skill, and application. Students use conceptual understanding of addition to add three addends together. The mathematics required is directly indicated by the context. Students complete a grade-level procedure of adding three numbers within 20 to solve the problem.

**Answer Key:**

A vase has 6 red flowers, 4 blue flowers, and 3 yellow flowers.

How many flowers are there in all? Move a number to the line to show the answer.

13 flowers

0	1	2	3	4	5	6	7	8	9	10
11	12		14	15	16	17	18	19	20	

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