## NWEA Assessment Item Illustrating 1.OA.B.4

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## **Domain:** Operations and Algebraic Thinking

**1.OA.B:** Understand and apply properties of operations and the relationship between addition and subtraction.

## Calculator Availability: No



**Alignment: 1.OA.B.4:** Understand subtraction as an unknown-addend problem. *For example, subtract* 10 - 8 by finding the number that makes 10 when added to 8.

Developing a deep understanding of the relationship between addition and subtraction is a crucial area of focus in grade 1. Students need to understand that problems with an unknown addend are also subtraction problems. This takes their knowledge of the relationship between addition and subtraction a step further than understanding subtraction as the reverse of addition. This new comprehension supports understandings of fact families and properties of operations. In this item, students must recognize that  $19 - 6 = \Box$  is equal to  $6 + \Box = 19$ . Subtraction is typically more difficult than addition for students, but with a deeper understanding of the relationship between the two, students can work with addend-unknown problems as subtraction problems.

**Coherence:** This standard builds on understandings of the put-together and take-apart problems that were introduced in kindergarten.<sup>K.OA.A.2</sup> Flexibility with addition and subtraction problems leads to computational fluency<sup>1.OA.C.6</sup> and supports computation with greater numbers.<sup>1.NBT.C, 2.NBT.B</sup> Understanding subtraction as an unknown-addend problem also helps students in middle school when they add and subtract with negative numbers.<sup>7.NS.A.1</sup>

**Rigor:** This item attends to conceptual understanding, as students use their understanding of the relationship between addition and subtraction to find the answer.

## Answer Key:



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