NWEA Assessment Item Illustrating K.NBT.A.1

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Domain: Number and Operations in Base Ten **K.NBT.A:** Work with numbers 11–19 to gain foundations for place value. **Calculator Availability:** No

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Show 16 using counters and numbers. Move counters to the ten frame to show 16. Then, move a number to the line to show the answer.



Alignment: K.NBT.A.1: Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

This item introduces the foundational understanding for the concept of ten. Although students do not name 10 ones as 1 ten in this grade, the structure of the ten frame supports development of this idea. To answer this item correctly, students must recognize the number *16*, count the number of counters in the completed ten frame, and then count out six more counters. They then choose the "6" to represent the number counted in the second frame. Although this task may seem simple, it represents a great deal of complexity for a kindergartener—decomposing a number into 10 ones and some further ones is the first step in understanding the structure of place value and understanding numerals as symbols for quantities, which represents significant work in this grade.

Coherence: The foundational place-value work of this standard will be formalized in grade 1 when students learn to name 10 ones as 1 ten.^{1.NBT.A.2} In grade 2, students will learn to name 10 tens as 1 hundred.^{2.NBT.A.1} In grade 3, the place-value work focuses around using place value understanding to support addition, subtraction, multiplication, and rounding.^{3.NBT.A} In grades 4 and 5, students will expand to working with greater numbers and explicitly articulate the relationship between adjacent place values in any number.^{4.NBT.A.1, 5.NBT.A.1} Although the focus of this standard is on introducing base-ten concepts, this standard also supports the understanding of numerals as symbols for quantities.^{K.CC.A.3}

Rigor: This item attends to conceptual understanding and procedural skill. Students use conceptual understanding when they decompose a teen number into 10 ones and some further ones. Counting objects is both a procedural skill and conceptual, as students must understand the one-to-one correspondence required for counting and that the last number said represents the quantity.

Answer Key:

Show 16 using counters and numbers. Move counters to the ten frame to show 16. Then, move a number to the line to show the answer.



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