

NWEA Assessment Item Illustrating 2.MD.B.5

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Domain: Measurement and Data

2.MD.B: Relate addition and subtraction to length.

Calculator Availability: No

Use the information to answer the question.

Kelsey is 13 inches taller than her sister. Kelsey is 53 inches tall.

How tall is Kelsey's sister? Enter the answer in the box.

inches

Alignment: 2.MD.B.5: Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.

Although students are free to solve this problem in multiple ways, the inclusion of length units is designed to encourage students to relate the problem to a number line. The problem structure follows the compare-with-smaller-unknown problem subtype outlined in Table 1 of the CCSS Mathematics Glossary. This approach gives students experience with comparison word problems that do not always follow the *more-means-addition* and *fewer-means-subtraction* language.

Coherence: In kindergarten, students determined which object had more/less of this attribute via direct comparison.^{K.MD.A} In grade 1, students began comparing lengths via a reference object.^{1.MD.A} This grade 2 standard builds upon both the kindergarten and grade 1 standards and the previous grade 2 measurement standard that required students to measure to compare the lengths of two objects.^{2.MD.A.4} Although students do not actually measure in items aligned to 2.MD.B.5, they are encouraged to use number lines or drawings of rulers to solve the problem. Standard 2.MD.B.6 takes this concept further by having students connect both lengths and the operations of addition and subtraction to the number line. Developing and reinforcing the concept of a number line is a critical foundation to understanding the relationship between types of numbers. In grade 3, students will develop fraction concepts using a number line. This will develop the understanding that fractions are numbers between whole numbers, not separate entities unconnected to whole numbers. In the upper grades, decimals, rational numbers, and irrational numbers will be explored in relation to the number line. Additionally, students will continue to solve problems involving an expanding number of measurement units in both grades 3 and 4.^{3.MD.A.2, 4.MD.A.2}

Rigor: This item attends to conceptual understanding, procedural skill, and application. Because this item is a compare-with-smaller-unknown problem type, which is one of the more complex problem subtypes, conceptual understanding is required to unpack the problem. Students utilize grade-level procedural skill to compute the response. This item requires an application of mathematics in a real-world scenario in which the operation is directly indicated.

Answer Key:

Use the information to answer the question.

Kelsey is 13 inches taller than her sister. Kelsey is 53 inches tall.

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