

Number and Operations in Base Ten

3.NBT.A*

Cluster A

Use place value understanding and properties of operations to perform multi-digit arithmetic.¹

¹ A range of algorithms may be used.

STANDARD 1

3.NBT.A.1: Use place value understanding to round whole numbers to the nearest 10 or 100.

STANDARD 2

3.NBT.A.2: Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

STANDARD 3

3.NBT.A.3: Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80 , 5×60) using strategies based on place value and properties of operations.

*Additional cluster

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Cluster A: Use place value understanding and properties of operations to perform multi-digit arithmetic.¹

¹ A range of algorithms may be used.

Grade 3 Overview

Students enter third grade with knowledge of place value through hundreds and with experience adding and subtracting through 100 using a variety of strategies, concrete materials, and various representations. In Grade 3 they extend their knowledge of place value to include rounding numbers. They add and subtract fluently through 1000 using place value, properties, and the relationship between addition and subtraction. They extend their understanding of multiplication to include multiplying one-digit numbers times multiples of 10.

Standards for Mathematical Practice

SFMP 1. Make sense of problems and persevere in solving them.

SFMP 2. Use quantitative reasoning.

SFMP 3. Construct viable arguments and critique the reasoning of others.

SFMP 4. Model with mathematics.

SFMP 5. Use appropriate tools strategically.

SFMP 6. Attend to precision.

SFMP 7. Look for and make use of structure.

SFMP 8. Look for and express regularity in repeated reasoning.

Problem solving continues to provide a context for ongoing work with place value in rounding experiences as well as in adding and subtracting through 1000. Students use quantitative reasoning throughout this cluster as they use representations, including number lines, bundling straws into groups of tens and groups of one hundred, to model and explain their thinking. They continue to develop appropriate vocabulary and use that vocabulary in their explanations. As students extend their previous work with addition and subtraction, they use the structure of place value (composing and decomposing tens and hundreds) to develop efficient strategies to add and subtract. They explore and discuss the structure of multiplication by using models to see what happens when multiplying by multiples of 10. After many opportunities to multiply by 10 and multiples of 10, students generalize that when multiplying by 10, for example 3×10 , they have three 10s, which is written as 30. It is important that students recognize this pattern and why it works rather than being given a shortcut to avoid other misconceptions. They extend this understanding to all multiples of 10, making generalizations to find efficient ways to multiply.

Related Content Standards

3.OA.C.8 4.OA.A.3 4.NBT.A.3 5.NBT.A.4