Lesson 10: Using Algorithms with Partial Products: 2 Two-digit Numbers

Standards Alignments

Addressing   4.NBT.B.5

Teacher-facing Learning Goals

- Multiply 2 two-digit numbers using an algorithm that uses partial products.

Student-facing Learning Goals

- Let's try to multiply two-digit numbers with an algorithm that uses partial products.

Lesson Purpose

The purpose of this lesson is for students to use partial products in an algorithm to multiply 2 two-digit numbers.

In the previous lesson, students learned to record the partial products from multiplying vertically, using an algorithm. They made connections between the new notation to the structure of the rectangular diagram on which they used earlier. In this lesson, students apply that work to 2 two-digit factors.

Access for:

♿ Students with Disabilities

- Representation (Activity 1)

🌐 English Learners

- MLR8 (Activity 2)

Instructional Routines

MLR1 Stronger and Clearer Each Time (Activity 1), Number Talk (Warm-up)

Lesson Timeline

Warm-up	10 min
Activity 1	25 min
Activity 2	10 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

How did understanding the cool-down of the lesson before you started teaching today help you synthesize that learning?

Cool-down (to be completed at the end of the lesson)   🕐 5 min

Choose Your Own Strategy

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Student-facing Task Statement

Find the value of 15×43. Show your reasoning.

Student Responses

645. Sample responses:

$15 \times 40 + 15 \times 3 = 600 + 45 = 645$

$$
\begin{array}{r}
1\ 5 \\
\times \quad 4\ 3 \\
\hline
1\ 5 \\
3\ 0 \\
2\ 0\ 0 \\
+\ 4\ 0\ 0 \\
\hline
6\ 4\ 5
\end{array}
$$