Lesson 5: Standard Algorithm: Multi-digit Numbers without Composing

Standards Alignments

Addressing   5.NBT.B.5
Building Towards   5.NBT.B.5

Teacher-facing Learning Goals

- Use the standard algorithm to multiply up to three-digit numbers and two-digit numbers, without composing new units.

Student-facing Learning Goals

- Let's use the standard algorithm to multiply two-digit numbers and three-digit numbers.

Lesson Purpose

The purpose of this lesson is for students to use the standard algorithm to multiply up to three-digit numbers and two-digit numbers without composing a new unit.

In a previous lesson, students used the standard algorithm to multiply up to five-digit numbers by one-digit numbers. They connected the standard algorithm to a different algorithm that uses partial products. In this lesson, students find products of a three-digit number and a two-digit number when composing is not required. The numbers in this lesson do not require composing so that students can make sense of where to record the second partial when using the standard algorithm to multiply a three-digit number by a two-digit number. Students will work with products of a two-digit number and a three-digit number when composing is required in the next lesson.

Access for:

♿ Students with Disabilities

- Representation (Activity 2)

🌐 English Learners

- MLR8 (Activity 1)

Instructional Routines

Number Talk (Warm-up)

Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	15 min
Lesson Synthesis	10 min
Cool-down	5 min

Teacher Reflection Question

How did the student work that you selected impact the direction of the discussion? What student work might you pick next time if you taught the lesson again?

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

Standard Algorithm without Composition of a New Unit

Standards Alignments

Addressing   5.NBT.B.5

Student-facing Task Statement

Use the standard algorithm to find the value of 203×23.

Student Responses

4,669

$$
\begin{array}{r}
2\ \ 0\ \ 3 \\
\times\quad\ 2\ \ 3 \\
\hline
6\ \ 0\ \ 9 \\
+\ \ 4,\ \ 0\ \ 6\ \ 0 \\
\hline
4,\ \ 6\ \ 6\ \ 9 \\
\end{array}
$$