

# Lesson 4: Standard Algorithm: One-digit and Multi-digit Numbers with Composing

## Standards Alignments

Addressing 5.NBT.B.5

### Teacher-facing Learning Goals

- Use the standard algorithm to multiply up to five-digit numbers by one-digit factors, including composing new units.

### Student-facing Learning Goals

- Let's use the standard algorithm to multiply one-digit numbers and multi-digit numbers.

## Lesson Purpose

The purpose of this lesson is for students to use the standard algorithm to multiply up to five-digit numbers and one-digit numbers.

In grade 4, students interpreted the standard algorithm for multiplication and compared it to a partial products algorithm to multiply up to four-digit numbers and one-digit numbers. In this lesson, students extend their understanding of the standard algorithm to multiply up to five-digit numbers and one-digit numbers, including problems where one or more new units are composed. This is the first in a series of lessons to support students in developing fluency using the standard algorithm to multiply multi-digit numbers.

## Access for:

### Students with Disabilities

- Representation (Activity 2)

## Instructional Routines

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

### Lesson Timeline

Warm-up	10 min
Activity 1	20 min

### Teacher Reflection Question

What evidence do you see that your students are applying what they learned about partial products to make sense of the standard algorithm?

Activity 2 15 min

Lesson Synthesis 10 min

Cool-down 5 min

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## Cool-down (to be completed at the end of the lesson)

🕒 5 min

Standard Algorithm Calculation

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### Student-facing Task Statement

Use the standard algorithm to find the value of  $3,514 \times 7$ .

### Student Responses

Sample response:

$$\begin{array}{r} \phantom{3,} \overset{3}{5} \phantom{1} \overset{2}{4} \\ 3,514 \\ \times \phantom{3,51} 7 \\ \hline 24,598 \end{array}$$