

# Lesson 19: Use Properties to Multiply Decimals

## Standards Alignments

Addressing 5.NBT.B.7, 5.OA.A

### Teacher-facing Learning Goals

- Use properties of operations to interpret and evaluate multiplication expressions with decimals and whole numbers.

### Student-facing Learning Goals

- Let's interpret and evaluate multiplication expressions with decimals and whole numbers.

## Lesson Purpose

The purpose of this lesson is for students to interpret and evaluate multiplication expressions with decimals and whole numbers.

In previous lessons, students used diagrams and expressions to articulate strategies for multiplying a whole number and a decimal. The purpose of this lesson is solidify this understanding as they match many different expressions for a single product and choose one to find the value. They think strategically about which expression to use. In previous lessons, the strategies included using whole number products and the associative property or using the distributive property. This lesson introduces one more strategy, compensation which is also an example of the distributive property. In the second activity, students choose from these different strategies to find the value of more complex products of a whole number and a decimal.

### Access for:

#### Students with Disabilities

- Engagement (Activity 2)

## Instructional Routines

MLR2 Collect and Display (Activity 1), Number Talk (Warm-up)

### Materials to Copy

- Decimal Multiplication Expression Card Sort (groups of 2): Activity 1

## Lesson Timeline

Warm-up	10 min
Activity 1	20 min
Activity 2	15 min
Activity 3	10 min
Lesson Synthesis	10 min
Cool-down	5 min

## Teacher Reflection Question

What did you say, do, or ask during the lesson synthesis that helped students be clear on the learning of the day? 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

### Interpret Expressions

#### Standards Alignments

Addressing 5.NBT.B.7

#### Student-facing Task Statement

- Select **all** the expressions that are equivalent to  $15 \times 0.19$ .
  - $15 \times 19 \times 0.01$
  - $(15 \times 0.1) + (15 \times 0.09)$
  - $15 \times 19 \times 0.1$
  - $(15 \times 0.2) - (15 \times 0.01)$
- Choose one expression to find the value of  $15 \times 0.19$ .

#### Student Responses

- A, B, and D
- Sample response:  $15 \times 0.2$  is 30 tenths or 3 and  $15 \times 0.01$  is 15 hundredths or 0.15. Then  $3 - 0.15 = 2.85$ .