

Unit 7 Chapter 04 Multiply Decimals

Content Area: **English Language Arts**
Course(s): **Math 5**
Time Period: **March**
Length: **MP - 3**
Status: **Published**

Unit Summary

In this unit, students will learn to multiply with decimal numbers, beginning by using models, and then extending the standard algorithm to include multiplication with decimals to thousandths. Students will also continue to learn new concepts of place value with decimals, including studying patterns of multiplication by powers of 10 both greater than and less than 1, and by learning how to insert placeholder zeros as needed for multiplication products less than one-tenth.

Standards

MA.5.NBT.A.2	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
MA.5.NBT.B.7	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
TECH.8.1.5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
TECH.8.1.5.A.CS2	Select and use applications effectively and productively.

Student Learning Objectives

Students will learn to:

- find patterns in products when multiplying by powers of 10.
- model multiplication of whole numbers and decimals.
- multiply a decimal and a whole number using properties and place value.
- use expanded form and place value to multiply a decimal and a whole number.
- solve problems using the strategy *draw a diagram* to multiply money.
- model multiplication of decimals.
- place the decimal point in decimal multiplication.
- multiply decimals with zeros in the product.

Essential Questions

- How can patterns help you place the decimal point in a product?
- How can you use a model to multiply a whole number and a decimal?
- How can you use drawings and place value to multiply a decimal and a whole number?
- How can you use expanded form and place value to multiply a decimal and a whole number?

- How can the strategy draw a diagram help you solve a decimal multiplication problem?
- How can you use a model to multiply decimals?
- What strategies can you use to place a decimal point in a product?
- How do you know you have the correct number of decimal places in your product?

Enduring Understandings

Students will understand that:

- patterns and strategies can help you place the decimal point in a product.
- concrete models, drawing and place value help when multiplying a whole number and a decimal.
- using expanded form and place value is another option for multiplying a decimal and a whole number.
- the strategy draw a diagram can help you solve a decimal multiplication problem.

Application

Students will be able to independently use their learning to:

- find patterns in products when multiplying by powers of 10.
- model multiplication of whole numbers and decimals.
- multiply a decimal and a whole number using properties and place value.
- use expanded form and place value to multiply a decimal and a whole number.
- solve problems using the strategy *draw a diagram* to multiply money.
- place the decimal point in decimal multiplication.
- multiply decimals with zeros in the product.

Skills

Students will be skilled at:

- finding patterns in products when multiplying by powers of 10.
- modeling multiplication of whole numbers and decimals.
- multiplying a decimal and a whole number using drawings and place value.
- using expanded form and place value to multiply a decimal and a whole numbers.
- solving problems using the strategy *draw a diagram* to multiply money.
- modeling multiplication of decimals.
- placing the decimal point in decimal multiplication.
- multiplying decimals with zeros in the product.

