

Unit 2 - Chapter 2: Multiply by 1-Digit Numbers

Content Area: **Mathematics**
Course(s): **Math 4**
Time Period: **October**
Length: **3 weeks**
Status: **Published**

Unit Summary

In this unit, students will use their knowledge of place value and multiplication facts to multiply by 1- digit numbers. In this unit, students will make multiplication comparisons and estimate comparisons. Students will also multiply using the Distributive Property, Expanded Form and Partial Products. Throughout this unit, students will be answering word problems and using problem solving skills to multiply. Students will also be able to multiply by 2-digit, 3-digit and 4-digit numbers with regrouping.

Standards

MA.4.OA.A.1	Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
MA.4.OA.A.2	Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
MA.4.OA.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Student Learning Objectives

Students will learn to:

- relate multiplication equations and comparison statements.
- solve problems involving multiplicative comparison and additive comparison.
- multiply tens, hundreds, and thousands by whole numbers through 10.
- estimate products by rounding and determine if exact answers to multiplication problems are reasonable.
- use the Distributive Property to multiply a 2-digit number by a 1-digit number.
- use expanded form to multiply a multi-digit number by a 1-digit number.
- use place value and partial products to multiply a multi-digit number by a 1-digit number.
- use mental math and properties to multiply a multi-digit number by a 1-digit number.
- use the *draw a diagram* strategy to solve multi-step problems.
- use regrouping to multiply a 2-digit number by a 1-digit number.
- use regrouping to multiply a multi-digit number by a 1-digit number.
- represent and solve multi-step problems using equations.

Essential Questions

- How can you model multiplication comparisons?
- How does a model help you solve a comparison problem?
- How does understanding place value help you multiply tens, hundreds, and thousands?
- How can estimating products by rounding determine if exact answers are reasonable?
- How can you use the Distributive Property to multiply a 2-digit number by a 1-digit number?
- How can you use expanded form to multiply a multi-digit number by a 1-digit number?
- How can you use place value and partial products to multiply by a 1-digit number?
- How can mental math and properties be used to multiply numbers?
- When can you use the *draw a diagram* strategy to solve a multi-step multiplication problem?
- How can you use regrouping to multiply a 2-digit number by a 1-digit number?
- How is regrouping used when multiplying?
- How can you represent and solve multi-step problems using equations?

Enduring Understandings

Students understand that:

- in multiplication, one quantity is a certain amount 'times as much' or 'times as many' as another quantity.
- as the number of zeros in a factor increases, the numbers of zeros in the product increases.
- estimation can be used to see if an answer is reasonable.
- changing the order of the factors will not change the product.

Application

Students will be able to independently use their learning to:

- solve problems involving multiplicative comparison and additive comparison.
- multiply tens, hundreds, and thousands by whole numbers through 10.
- estimate products by rounding and determine if exact answers to multiplication problems are reasonable.
- use the Distributive Property to multiply a 2-digit number by a 1-digit number.
- use expanded form to multiply a multi-digit number by a 1-digit number.
- use place value and partial products to multiply a multi-digit number by a 1-digit number.
- use regrouping to multiply a 2-digit number and multi-digit by a 1-digit number.

Skills

Students will skilled at:

- solving problems involving multiplicative comparison and additive comparison.
- multiplying tens, hundreds, and thousands by whole numbers through 10.
- estimating products by rounding and determine if exact answers to multiplication problems are reasonable.
- using the Distributive Property to multiply a 2-digit number by a 1-digit number.
- using expanded form to multiply a multi-digit number by a 1-digit number.
- using place value and partial products to multiply a multi-digit number by a 1-digit number.

- using regrouping to multiply a 2-digit number and multi-digit by a 1-digit number.