



# Unit 2: Multiply by 1-Digit and 2-Digit Numbers

## Math 4

Last Update: August 1, 2025

Archdiocesan Curriculum > Grade 4 > Math > Length of unit 24 to 26 days

<b>Stage 1: Desired Results</b>						
<p><b>General Information</b></p> <p>This unit focuses on developing fluency and conceptual understanding of multiplication with whole numbers. Students explore various strategies including place value, expanded form, partial products, area models, distributive property, mental math, and regrouping. They solve one-step and multi-step real-world problems and build toward proficiency with multi-digit multiplication.</p> <p><b>Mathematical Practices</b></p> <ul style="list-style-type: none"> <li>● MP1 – Make sense of problems and persevere in solving them.</li> <li>● MP2 – Reason abstractly and quantitatively.</li> <li>● MP4 – Model with mathematics.</li> <li>● MP6 – Attend to precision.</li> </ul>	<p><b>Essential Question(s)</b></p> <ul style="list-style-type: none"> <li>● How can I use models and equations to solve multiplication problems?</li> <li>● What strategies help estimate and check the reasonableness of a product?</li> <li>● In what ways can I multiply multi-digit numbers efficiently?</li> <li>● How do properties of operations support mental math strategies for multiplication?</li> <li>● How can I apply multiplication to solve real-world problems?</li> </ul>					
<p><b>Enduring Understanding/Knowledge</b></p> <p><b>Students will:</b></p> <ul style="list-style-type: none"> <li>● Use models and equations to solve multiplication comparisons.</li> <li>● Draw models and write equations to help solve comparison problems.</li> <li>● Use place value and other strategies to multiply tens, hundreds, and thousands.</li> <li>● Estimate products by rounding and determine if exact answers are reasonable.</li> <li>● Use models, equations, and the Distributive Property to solve 2-digit by 1-digit multiplication problems.</li> <li>● Use expanded form to multiply a multi-digit number by a 1-digit number.</li> <li>● Use different strategies such as place value and partial products to multiply by a 1-digit number.</li> <li>● Multiply numbers using mental math and properties of operations.</li> <li>● Solve real-world problems involving multiplication of whole numbers.</li> <li>● Multiply whole numbers using estimation, rounding, and place value.</li> <li>● Solve real-world multi-step problems using multiplication, addition, and subtraction.</li> </ul> <p><b>Review/Assess</b></p> <ul style="list-style-type: none"> <li>● Use different strategies to multiply by tens.</li> <li>● Use different strategies to estimate products.</li> <li>● Use area models and partial products to multiply by 2-digit numbers.</li> <li>● Use partial products to multiply.</li> </ul>	<p><b>Vocabulary</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%; text-align: center;"><b>New</b></th> <th style="width: 50%; text-align: center;"><b>Review</b></th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>● area model</li> <li>● Distributive Property</li> <li>● partial product</li> <li>● compatible numbers</li> </ul> </td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>● multiplication</li> <li>● product</li> <li>● factor</li> <li>● place value</li> <li>● estimate</li> <li>● rounding</li> <li>● equation</li> <li>● regrouping</li> <li>● multi-digit numbers</li> <li>● mental math</li> <li>● addition</li> <li>● subtraction</li> </ul> </td> </tr> </tbody> </table>		<b>New</b>	<b>Review</b>	<ul style="list-style-type: none"> <li>● area model</li> <li>● Distributive Property</li> <li>● partial product</li> <li>● compatible numbers</li> </ul>	<ul style="list-style-type: none"> <li>● multiplication</li> <li>● product</li> <li>● factor</li> <li>● place value</li> <li>● estimate</li> <li>● rounding</li> <li>● equation</li> <li>● regrouping</li> <li>● multi-digit numbers</li> <li>● mental math</li> <li>● addition</li> <li>● subtraction</li> </ul>
<b>New</b>	<b>Review</b>					
<ul style="list-style-type: none"> <li>● area model</li> <li>● Distributive Property</li> <li>● partial product</li> <li>● compatible numbers</li> </ul>	<ul style="list-style-type: none"> <li>● multiplication</li> <li>● product</li> <li>● factor</li> <li>● place value</li> <li>● estimate</li> <li>● rounding</li> <li>● equation</li> <li>● regrouping</li> <li>● multi-digit numbers</li> <li>● mental math</li> <li>● addition</li> <li>● subtraction</li> </ul>					

<ul style="list-style-type: none"> <li>• Use regrouping to multiply whole numbers.</li> <li>• Use multiple strategies to multiply 2-digit and 3-digit numbers by 2-digit numbers.</li> <li>• Solve real-world problems using multiplication.</li> </ul>		
---	--	--

**Review/Assess**

Connections to Catholic Identity / Other Subjects

**Religion/Catholic Identity:**

- Genesis 43:34 ~ When portions were served to them from Joseph’s table, Benjamin’s portion was five times as much as anyone else’s. So they feasted and drank freely with him.
- Matthew 12:40 - For just as Jonah was three days and three nights in the belly of the whale, so will the Son of Man be three days and three nights in the heart of the earth.
- <https://bible.knowing-jesus.com/topics/Math>
- <https://www.savoringeachmoment.com/50-bible-verses-about-math/>

**Subject Here:**

- **Art:** Create mosaic or tile art with repeated patterns. Use the area model to calculate the number of tiles in a section. Apply the Distributive Property to break complex designs into parts. Use compatible numbers to estimate materials needed. Visual-spatial reasoning and multiplication embedded in creative projects.
- **ELA:** Create word problems or comics using multiplication. Write and solve word problems using the Distributive Property and partial products. Estimate answers with compatible numbers before solving. Illustrate problems using area models. Builds vocabulary, comprehension, and math communication skills.

Differentiation

**Enrichment**

- **Compare Theoretical and Experimental Probability** – Have students design their own experiments, collect data, and then calculate both theoretical and experimental probabilities. Ask them to analyze discrepancies and explain possible causes.
- **Solve Complex Multi-Step Problems** – Challenge students to solve multi-step multiplication problems involving larger numbers or decimals.
- **Create and Present Word Problems** – Encourage students to create and present their own multiplication word problems using area models and distributive property.
- **Multiply Larger Numbers** – Introduce multiplication with three-digit by two-digit numbers and ask students to explain their strategies.
- **Explore Fact Families** – Have students explore connections between multiplication and division through fact families and inverse operations.

**Support**

- **Use Manipulatives for Place Value** – Use manipulatives or visual aids such as base-ten blocks to reinforce place value concepts in multiplication.
- **Guided Practice with Models** – Provide step-by-step guided practice on multiplication with partial products and area models.
- **Estimation Exercises** – Offer estimation exercises to build number sense before exact calculation.
- **Reinforce Basic Facts** – Use repeated addition and skip counting to reinforce basic multiplication facts.
- **Partner and Small Group Instruction** – Incorporate partner work or small group instruction focusing on foundational multiplication strategies and vocabulary.

**Standards & Benchmarks**

**Multiply by 1-Digit Numbers:**

**4.OA.2**

Multiply or divide to solve word problems involving multiplicative comparison, for example, by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

**4.OA.1**

Interpret a multiplication equation as a comparison (for example, 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.

**4.OA.3**

Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted.

**4.OA.3.a**

Represent these problems using equations with a letter standing for the unknown quantity.

**4.NBT.5**

Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

**4.NBT.B.5**

Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

**Multiply by 2-Digit Numbers:**

**4.NBT.3**

Use place value understanding to round multi-digit whole numbers to any place.

**4.OA.3**

Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted.

**4.OA.3.a**

Represent these problems using equations with a letter standing for the unknown quantity.

**4.NBT.5**

Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

**4.NBT.B.5**

Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

**4.NBT.1**

Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that  $700 \div 70 = 10$  by applying concepts of place value and division.

**4.NBT.A.1**

Apply concepts of place value, multiplication, and division to understand that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.

Teaching Ideas/Resources

**Websites/Resources:**

- [K5 Learning pages on Multiplication](#)
- [Properties of Multiplication Sort](#)