

April Gr.5 My Math Unit 10: Multiplying and Dividing Fractions

Content Area: **Math**
Course(s):
Time Period: **April**
Length: **4-6 Weeks**
Status: **Published**

Unit Overview

This unit explores strategies for multiplying and dividing fractions.

Enduring Understandings

It is important to remember and apply certain strategies when multiplying and dividing fractions.

Essential Questions

What strategies can be used to multiply and divide fractions?

Instructional Strategies & Learning Activities

Chapter 10

Pacing Guide

Suggested Pacing

Instruction	13 days
Review/Assessment	2 days
Total*	15 days

*Includes additional time for remediation and differentiation.

Lesson	Objective	Material & Manipulatives	Vocabulary
Lesson 1 pp. 707-712	Explore how to find part of a	• bar diagrams	5.1

Hands On: Part of a Number	number.		5.1 5.1
			M
			M 2,
Lesson 2 pp. 713-718 Estimate Products of Fractions	Estimate products of fractions using compatible numbers and rounding.	<ul style="list-style-type: none"> • bar diagrams • number lines • counters 	5.1 5.1 5.1
			M
			M 1,
Lesson 3 pp. 719-724 Hands On: Model Fraction Multiplication	Explore multiplying whole numbers and fractions using models.	<ul style="list-style-type: none"> • fraction tiles • crayons or colored pencils 	5.1 5.1 5.1
			M
			M 1,
Lesson 4 pp. 725-730 Multiply Whole Numbers and Fractions	Multiply whole numbers and fractions.	<ul style="list-style-type: none"> • play money: quarters 	5.1 5.1 5.1
			M
			M 1,
Check My Progress Lesson 5 pp. 733-738 Hands On: Use Models to Multiply Fractions	Explore using models to multiply a fraction by a fraction.	<ul style="list-style-type: none"> • crayons or colored pencils 	5.1 5.1 5.1
			M
			M 1,
Lesson 6 pp. 739-744 Multiply Fractions	Multiply fractions.	<ul style="list-style-type: none"> • round yellow, blue, and red tiles • crayons or colored pencils 	5.1 5.1 5.1 5.1 5.1
			M
			M 1,
Lesson 7 pp. 745-750 Multiply Mixed Numbers	Multiply mixed numbers.	<ul style="list-style-type: none"> • fraction tiles • crayons or colored pencils 	5.1

				M
				M
Lesson 8 pp. 751-756 Hands On: Multiplication as Scaling	Interpret multiplication of fractions as scaling.	• number lines	scaling	1, 5.1 5.1 5.1
				M
				M
Check My Progress				1, 5.1 5.1 5.1 5.1
				M
Lesson 9 pp. 759-784 Hands On: Division with Unit Fractions	Divide whole numbers by unit fractions using models.	• fraction tiles	unit fraction	M 1, 5.1 5.1 5.1
				M
Lesson 10 pp. 765-770 Divide Whole Numbers by Unit Fractions	Use bar diagrams to divide whole numbers by unit fractions.	• bar diagrams • fraction tiles	unit fraction	M 2, 5.1 5.1 5.1
				M
Lesson 11 pp. 771-776 Divide Unit Fractions by Whole Numbers	Use bar diagrams to divide unit fractions by whole numbers.	• bar diagrams		M 3, 5.1 5.1 5.1 5.1 5.1 5.1
				M
Lesson 12 pp. 777-782 Problem-Solving Investigation: Draw a Diagram	Solve problems by drawing a diagram.	• bar diagrams		M 1,

Integration of Career Readiness, Life Literacies and Key Skills

Students will work in cooperative groups to solve problems. Students will interact with the Smartboard to enhance the learning process.

TECH.9.4.5.DC.4	Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).
TECH.9.4.5.CT.4	Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).
TECH.9.4.5.CT	Critical Thinking and Problem-solving
WRK.9.2.5.CAP	Career Awareness and Planning
WRK.9.2.5.CAP.1	Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.
WRK.9.2.5.CAP.2	Identify how you might like to earn an income.
WRK.9.2.5.CAP.3	Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
WRK.9.2.5.CAP.4	Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.

Technology and Design Integration

Students will interact with the Smartboard to enhance the learning process. Students will supplement with educational, web-based, interactive games as needed.

	Data can be organized, displayed, and presented to highlight relationships.
CS.3-5.8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
CS.3-5.8.1.5.CS.3	Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.
CS.3-5.DA	Data & Analysis

Interdisciplinary Connections

Students read, write, and draw throughout this unit.

LA.RL.5.4	Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.
LA.RI.5.10	By the end of year, read and comprehend literary nonfiction at grade level text-complexity or above, with scaffolding as needed.

LA.RF.5.4	Read with sufficient accuracy and fluency to support comprehension.
LA.RF.5.4.A	Read grade-level text with purpose and understanding.
LA.RI.5.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

Differentiation

Differentiation:

- Use of different resources to match the readiness levels of the students when working on the activities in the daily lessons.
- Respond to students' needs for reteaching, reinforcing, and extending learning.
- Use of a variety of instructional strategies to engage students in learning.
- Question prompts to promote student engagement
- Small group settings as needed for specific skills
- Use discussion to promote collaboration among students
- Integrate technology to offer varied learning experiences
- Adjust instruction based on formative tasks/assessments

Modifications & Accommodations

Modifications & Accommodations:

- In class support and scaffolding based on the individual IEP's
- Independent levels on My Math and Splash Math

Benchmark Assessments

Students will complete Aimsweb testing for Benchmark Assessments.

Formative Assessments

Formative Assessments:

- Task completion
- Answers and discussions
- Student maps
- Bingo
- Quizzes

- Participation

Summative Assessments

Summative Assessments:

- Quizzes
- Final Test

Instructional Materials

My Math Textbook series grade 5

See materials in lessons above

Standards

MA.5.NF.B.4a	Interpret the product $(\frac{a}{b}) \times c$ as a parts of a partition of c into b equal parts; equivalently, as the result of a sequence of operations $a \times c \div b$.
MA.5.NF.B.4b	Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.
MA.5.NF.B.5a	Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
MA.5.NF.B.5b	Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $\frac{a}{b} = \frac{a \times c}{b \times c}$ to the effect of multiplying $\frac{a}{b}$ by 1.
MA.5.NF.B.7a	Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.
MA.5.NF.B.7c	Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem.
MA.5.NF.B.6	Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
MA.5.NF.B.7b	Interpret division of a whole number by a unit fraction, and compute such quotients.

