

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

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

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 number.	• bar diagrams	

Hands On: Part of a Number

Lesson 2 pp. 713-718

Estimate Products of Fractions

Estimate products of fractions using compatible numbers and rounding.

- bar diagrams
- number lines
- counters

Lesson 3 pp. 719-724

Hands On: Model Fraction Multiplication

Explore multiplying whole numbers and fractions using models.

- fraction tiles
- crayons or colored pencils

Lesson 4 pp. 725-730

Multiply Whole Numbers and Fractions

Multiply whole numbers and fractions.

- play money: quarters

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.

- crayons or colored pencils

Lesson 6 pp. 739-744

Multiply Fractions

Multiply fractions.

- round yellow, blue, and red tiles
- crayons or colored pencils

Lesson 7 pp. 745-750
Multiply Mixed Numbers

Multiply mixed numbers.

- fraction tiles
- crayons or colored pencils

Lesson 8 pp. 751-756
Hands On: Multiplication as Scaling

Interpret multiplication of fractions as scaling.

- number lines

scaling

Check My Progress

Lesson 9 pp. 759-784
Hands On: Division with Unit Fractions

Divide whole numbers by unit fractions using models.

- fraction tiles

**unit
fraction**

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**

Lesson 11 pp. 771-776

Divide Unit Fractions by Whole Numbers

Use bar diagrams to divide unit fractions by whole numbers.

- bar diagrams

Lesson 12 pp. 777-782

Solve problems by drawing a diagram.

- bar diagrams

Problem-Solving Investigation: Draw a Diagram

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.

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.
TECH.9.4.5.CT	Critical Thinking and Problem-solving
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.DC.4	Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).

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.

CS.3-5.8.1.5.CS.3	Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.
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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.DA	Data & Analysis
	Data can be organized, displayed, and presented to highlight relationships.

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.5.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.
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.

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 $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$.
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 $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.

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.7a

Interpret division of a unit fraction by a non-zero whole number, and compute such quotients.

MA.5.NF.B.7b

Interpret division of a whole number by a unit fraction, 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.