

KEY CONCEPT OVERVIEW

In the first topic of Module 2, students work extensively with division of fractions and mixed numbers. They create division stories, solve word problems, and study patterns to explore the relationship between multiplication and division, using familiar models such as **tape diagrams**, **arrays**, and **number line diagrams**.

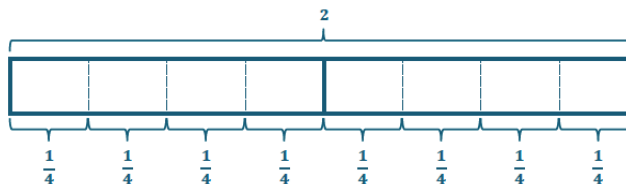
You can expect to see homework that asks your child to do the following:

- Divide a fraction by a whole number.
- Solve word problems involving division of fractions.
- Use models to help solve problems.
- Rewrite a division expression (e.g., $\frac{9}{12} \div \frac{3}{12}$) in **unit language** (9 twelfths \div 3 twelfths).
- Write a **partitive** or **measurement division** story problem, for example, “Twenty-four students formed six equal-sized teams. How many students were on each team?”
- Use the standard algorithm for dividing fractions—invert the **divisor** (the second fraction) and multiply it by the first fraction (e.g., $\frac{2}{3} \div \frac{3}{4} = \frac{2}{3} \times \frac{4}{3} = \frac{8}{9}$).
- Calculate the **quotient**.

SAMPLE PROBLEM (From Lesson 2)

A construction company is setting up signs on two miles of a road. If the company places a sign at every $\frac{1}{4}$ mile, how many signs will it use?

$$2 \div \frac{1}{4} \quad \text{How many one-fourths in 2?}$$



$$2 \div \frac{1}{4} = 8 \text{ fourths} \div 1 \text{ fourth} = 8$$

There are 8 fourths in 2. The company will use eight signs.

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

You can help at home in many ways. Here is a tip to help you get started.

- Write a story problem with your child that illustrates division. For example, for $\frac{1}{2} \div \frac{1}{8}$, your story might be, “Bailey has a total of $\frac{1}{2}$ pound of chocolate. She needs $\frac{1}{8}$ pound of chocolate for each batch of brownies she bakes. How many batches of brownies can Bailey bake with $\frac{1}{2}$ pound of chocolate?” Which language arts skills and strategies can your child incorporate into the story problem? Be creative and have fun!

TERMS

Dividend: The number that is divided by another number. For example, in the expression $32 \div 4$, the number 32 is the dividend.

Divisor: The number by which another number is divided. In the problem $36 \div 9 = 4$, 9 is the divisor.

Measurement division: Finding the number of groups when the number of items per group is known. For example, “How many one-fifths are in 7 wholes?”

Multiplicative inverse: When multiplying a number by its multiplicative inverse, the product (answer) is one. For example, $\frac{3}{4}$ and $\frac{4}{3}$ are multiplicative inverses because $\frac{3}{4} \times \frac{4}{3} = 1$.

Partitive division: Finding the number of items in each group when the number of groups is known. For example, “There are 12 apples divided evenly among three bags. How many apples are in each bag?”

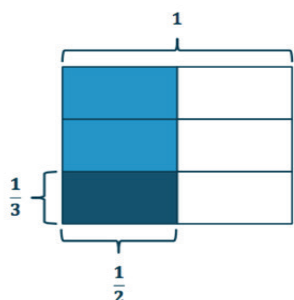
Quotient: The answer to a division problem.

Unit form: Place value counting. For example, 34 can be stated as 3 tens 4 ones.

Unit language: Using the unit (e.g., thirds, fifths, tenths) to describe a number. For example, 0.4 is 4 tenths and $\frac{1}{5}$ is 1 fifth.

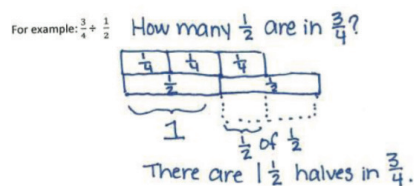
MODELS

Array Model

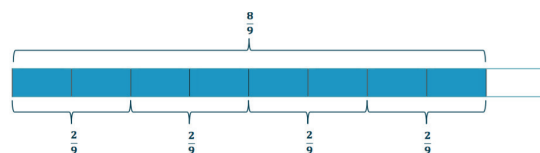


$$\frac{1}{2} \div \frac{1}{3} = \frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$$

Fraction Tiles



Tape Diagram



Number Line Diagram

