

Unit 11

Family Letter

Dear Family,

In this unit, *Divide Fractions*, your child will learn how to use different strategies and representations to interpret quotients as mixed numbers, to divide unit fractions and whole numbers, and solve problems involving division.

STEM Career Kid for this Unit

Hi, I'm Antonio.

I want to be a robotics engineer. I will use math in my job when I find the battery life of a robot. I'll show students how to divide whole numbers by unit fractions.



What math terms will your child use?

Term	Student Understanding
mixed number	a number that has a whole-number part and a fraction part; For example, $4\frac{1}{2}$ is a mixed number.
quotient	the result of a division problem; For example, in the division $\frac{1}{4} \div 2 = \frac{1}{8}$, the quotient is $\frac{1}{8}$.
unit fraction	a fraction that has 1 as the numerator



What can your child do at home?

With your child, look for situations around your home where division could be used to solve a problem. For example, if there are 2 oranges left, and 3 people each want some, how much does each person get if they share equally? Another example is that if there is $\frac{1}{2}$ loaf of bread, and it is cut into 6 equal slices, how much of the loaf is each slice? Look for other examples where division is needed to solve.

What Will Students Learn in This Unit?

Writing a Quotient

Your child will learn to write a quotient with a remainder or as a mixed number.

Example: Donna made 25 bracelets. She gave an equal number to each of 6 friends. How many bracelets did each friend get?

To solve, find $25 \div 6$.

$$25 \div 6 = 4 \text{ R}1$$

$$25 \div 6 = 4\frac{1}{6}$$

Since giving a fractional part of a bracelet is not possible, Donna gives each friend 4 bracelets and has 1 bracelet left over.

Dividing a Whole Number by a Unit Fraction

Your child will learn how to use multiplication to divide a whole number by a unit fraction.

Example: Harriet has 8 pounds of potting soil. She puts $\frac{1}{3}$ pound of soil into each pot. How many pots can Harriet fill with potting soil?

To solve, find $8 \div \frac{1}{3}$.

There are three $\frac{1}{3}$ s in 1 whole.

$$\text{So, } 8 \times 3 = 24.$$

Harriet can fill 24 pots with the potting soil she has.

Dividing a Unit Fraction by a Whole Number

Your child will learn how to use multiplication to divide a unit fraction by a whole number.

Example: There is $\frac{1}{2}$ loaf of bread remaining on the table. There are 5 people who would each like a piece of the bread. Barb cuts the bread into 5 equal pieces. How much of the original loaf of bread is each piece?

To solve, find $\frac{1}{2} \div 5$.

Dividing by 5 is the same as multiplying by $\frac{1}{5}$.

$$\frac{1}{2} \div 5 = \frac{1}{2} \times \frac{1}{5} = \frac{1}{10}$$

Each slice is $\frac{1}{10}$ of the original loaf of bread.