FAMILY MATH

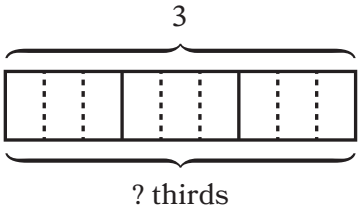
Division with a Unit Fraction and a Whole Number

Dear Family,

Your student is learning to divide a whole number by a unit fraction and to divide a unit fraction by a whole number. A unit fraction, such as $\frac{1}{3}$, $\frac{1}{8}$, or $\frac{1}{15}$, is exactly 1 of a specific fractional unit. They begin by exploring division when the divisor represents the size of each group, and then when the divisor represents the number of groups. Students use tape diagrams and number lines to reason about division. Your student makes connections about the size of quotients, or answers. They see that the quotient of a whole number and a unit fraction is greater than the dividend, and that the quotient of a unit fraction and a whole number is less than the dividend. Students solve real-world problems involving fractions with multiplication and division.

Number of Groups

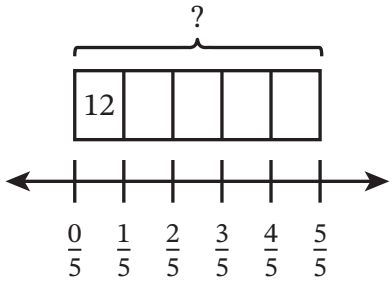
$3 \div \frac{1}{3}$



There are 9 groups.

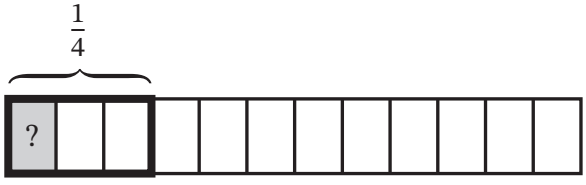
Size of the Group

$12 \div \frac{1}{5}$



The size of the whole group is 60.

$\frac{1}{4} \div 3$



The shaded part represents $\frac{1}{12}$.

$\frac{1}{2} \div 4 > \frac{1}{4} \div 4$

Both expressions have a divisor of 4.

Because $\frac{1}{2} > \frac{1}{4}$, that means $\frac{1}{2} \div 4$ has the greater quotient.

At-Home Activity

At Home Division

Practice dividing a whole number by a unit fraction and a unit fraction by a whole number by asking your student questions about home activities. Then ask them to write or say the equation. For example:

- "2 hours is $\frac{1}{5}$ the total number of hours that you spend practicing piano each month. How many hours do you spend practicing each month?" $\left(2 \div \frac{1}{5} = 10\right)$
- "If you pour $\frac{1}{4}$ gallon of milk equally into 2 glasses, how much milk is in each glass?" $\left(\frac{1}{4} \div 2 = \frac{1}{8}\right)$