## FAMILY MATH <br> Multiplication of Fractions

Dear Family,
Your student is learning various methods to multiply two fractions. They partition, or divide, number lines and area models to multiply fractions less than 1 and greater than 1 . Students learn they can make a simpler problem by reasoning about the factors before they multiply. They use unit language and known products to make simpler problems and practice comparing expressions with two fractions without evaluating. Students recognize that the size of the factors affects the size of the product.
$\frac{1}{2} \times \frac{3}{4}=\frac{3}{8}$


Students partition an area model to find the product of two fractions less than 1.
$\frac{17}{20} \times \frac{3}{5}<\frac{5}{5} \times \frac{17}{20}$
Both expressions have $\frac{17}{20}$ as a factor
and $\frac{3}{5}$ is less than $\frac{5}{5}$, so $\frac{17}{20} \times \frac{3}{5}$ is less than $\frac{5}{5} \times \frac{17}{20}$.

When a number is multiplied by a fraction less than 1 , the product is less than the number. When a number is multiplied by a fraction greater than 1 , the product is greater than the number.

## At-Home Activities

## Calendar Multiplication

Ask your student to pick two holidays and note on which day of the week the holidays fall. For each holiday, have your student use the number for the day of the week (using 1 for Sunday) as the numerator of a fraction and the number for the month as its denominator. Then multiply the fractions. For example, Memorial Day is on a Monday in May, so the fraction is $\frac{2}{5}$. Thanksgiving is on a Thursday in November, so the fraction is $\frac{5}{11}$. Your student would then find $\frac{2}{5} \times \frac{5}{11}$. $\left(\frac{10}{55}\right.$ or $\left.\frac{2}{11}\right)$

## Recipes with Fractions

Find a recipe that has a fraction in the ingredients list. Ask your student to determine how much of that ingredient is needed to make $\frac{1}{2}$ the recipe. (Multiply by $\frac{1}{2}$.) Then ask how much is needed for $2 \frac{1}{2}$ times the recipe. (Multiply by $\frac{5}{2}$.)

