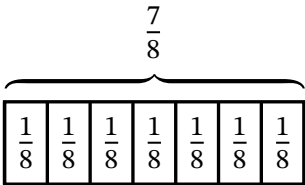


FAMILY MATH

Repeated Addition of Fractions as Multiplication

Dear Family,

Your student is using familiar models to multiply fractions and mixed numbers by a whole number. Students break apart a fraction to write repeated addition equations and a multiplication problem. They use methods that were used earlier in the year with whole numbers to break apart multiplication problems in different ways. Students solve word problems and use the context of the problem to decide when to rename a product, that is a fraction greater than 1, as a mixed number.

$$\frac{7}{8} = 7 \times \frac{1}{8}$$


$$\frac{7}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$$

$\frac{7}{8}$ is equal to adding $\frac{1}{8}$, 7 times.
Similar to whole numbers,
repeated addition can be written
by using multiplication.

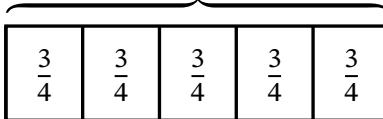
$$4 \times \frac{2}{5} = 4 \times \left(2 \times \frac{1}{5}\right)$$

$$= (4 \times 2) \times \frac{1}{5}$$

$$= 8 \times \frac{1}{5}$$

$$= \frac{8}{5}$$

Grouping numbers differently
may help students multiply.
In this case, they multiply the
whole numbers first and then
the unit fraction.



$$5 \times \frac{3}{4} = 5 \times \left(3 \times \frac{1}{4}\right)$$

$$= (5 \times 3) \times \frac{1}{4}$$

$$= 15 \times \frac{1}{4}$$

$$= \frac{15}{4}$$

Students use tape diagrams
to make sense of word
problems. They write and solve
multiplication equations that
describe their tape diagram to
answer the question in a word
problem.

At-Home Activity

Mixed Number Multiplication

Help your student use a favorite recipe to practice multiplying a mixed number and a whole number. Invite your student to research a recipe for a favorite dish and record an ingredient amount that is a mixed number from the recipe. Then have your student multiply the mixed number by 2 to see how much of the ingredient would be needed to double the recipe. Repeat this process by multiplying the amount by other whole numbers to see how much of the ingredient would be needed to triple or quadruple the recipe.