

Activity 11 Assessment

Multiplying Fractions

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Multiplies a fraction by a whole number or vice versa

$$3 \times 3\frac{3}{5}$$

"I know this is equal to $3\frac{3}{5} + 3\frac{3}{5} + 3\frac{3}{5}$,

which is the same as

$$(3 + 3 + 3) + \left(\frac{3}{5} + \frac{3}{5} + \frac{3}{5}\right)$$

$$= 9 + \frac{9}{5}$$

$$= 9 + 1\frac{4}{5}$$

$$= 10\frac{4}{5}$$

Because changing the order doesn't change the product, I know that

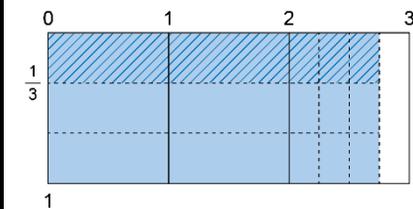
$$3\frac{3}{5} \times 3 = 10\frac{4}{5} \text{ as well.}"$$

Multiplies fractions and/or mixed numbers using a model

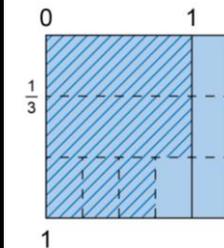
"To multiply $\frac{1}{3} \times 2\frac{3}{4}$, I drew an array

showing $2\frac{3}{4}$. Then, I partitioned it into

3 equal parts and shaded one part differently.



I rearranged the shaded pieces to compare them to 1 whole.



I can see that $\frac{11}{12}$ are shaded.

$$\text{So, } \frac{1}{3} \times 2\frac{3}{4} = \frac{11}{12}."$$

Multiplies fractions and/or mixed numbers symbolically

"To multiply $\frac{1}{3} \times 2\frac{3}{4}$, I'm first going to

write the mixed number as an improper fraction. Then, I can just multiply the numerators and the denominators.

$$\begin{aligned} \frac{1}{3} \times 2\frac{3}{4} &= \frac{1}{3} \times \frac{11}{4} \\ &= \frac{11}{12}." \end{aligned}$$

Solves problems that involve multiplying fractions and/or mixed numbers

"Toby has $32\frac{1}{2}$ yd of electrical cable.

They use $\frac{1}{5}$ of the cable on a wiring project. How many yards of cable are left?

Since Toby uses $\frac{1}{5}$ of the cable,

I know that $\frac{4}{5}$ remain.

$$\begin{aligned} \frac{4}{5} \times 32\frac{1}{2} &= \frac{4}{5} \times \frac{65}{2} \\ &= \frac{260}{10} \\ &= 26 \end{aligned}$$

There are 26 yd of cable left."

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Observations/Documentation			