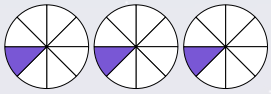
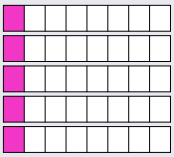
To be able to multiply unit fractions by integers

MathShed

Starter:

What's the same? What's different?





Explain your answer.

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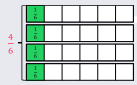
Activity 1:

Use bar models to calculate the following:

a) $\frac{1}{5} \times 3 =$

b) $\frac{1}{8} \times 4 =$

c) $\frac{1}{10} \times 5 =$



$\frac{1}{6} \times 4 = \frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{4}{6} = \frac{2}{3}$

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Activity 2:

Use a single bar model to calculate the following:

a) $\frac{1}{9} \times 3 =$

b) $\frac{1}{8} \times 6 =$

c) $\frac{1}{12} \times 8 =$

$\frac{6}{9}$

$\frac{1}{9} \times 6 = \frac{6}{9} = \frac{2}{3}$

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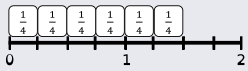
Activity 3:

Use a number line and repeated addition to calculate the following:

a) $5 \times \frac{1}{3} =$

b) $8 \times \frac{1}{4} =$

c) $15 \times \frac{1}{10} =$



$6 \times \frac{1}{4} = \frac{6}{4} = 1\frac{2}{4} = 1\frac{1}{2}$

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Activity 4:

James says. "When I multiply a unit fraction by its denominator, its result is equal to one whole."

Is James' statement always, sometimes or never true?

Provide examples to explain your answer.

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Activity 5:

Ruth says. "I am thinking of a unit fraction. When I multiply my fraction by six, the result can be simplified to one half. When I multiply my fraction by four, the result can be simplified to one third."

a) Which is the unit fraction Ruth is thinking about?
Explain your answer.

b) Write a multiplication sentence using Ruth's unit fraction that gives a simplified result of three quarters.

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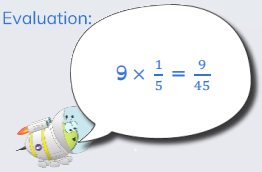
Evaluation:



Do you agree?
Explain your answer.