1.3.21 Fractions

Learning Objective:
We are learning to multiply unit fractions by an integer.

I will be successful if:

- I can see multiplication as repeated addition.
- I can give my answer in the simplest form.
- I can use bar models to show multiplication of fractions.

Key Vocabulary

- fractions as part of a whole
- representations
- numerator
- denominator
- non-unit and unit fractions
- integer (whole numbers)
- improper fractions
- mixed number
- addition
- subtraction
- difference

Flashback 4

Year 5 | Week 8 | Day 1

1) Work out $\frac{3}{5} + \frac{7}{20} + \frac{1}{10}$

2) Add $\frac{1}{5}$ and $\frac{1}{10}$

3) Write $\frac{29}{6}$ as a mixed number.

4) Add together 724 and 879

White Rose Maths

Challenge - compare decimals using ≤ or ≥

5) 4.26 ☐ 4.6

6) 5.66 ☐ 6.05

7) 3.45 ☐ 3.54

8) 2.75 ☐ 2.8

Flashback 4

Year 5 | Week 8 | Day 1

1) Work out $\frac{3}{5} + \frac{7}{20} + \frac{1}{10}$ $\frac{21}{20}$ or $1\frac{1}{20}$

2) Add $\frac{1}{5}$ and $\frac{1}{10}$ $\frac{3}{10}$

3) Write $\frac{29}{6}$ as a mixed number. $4\frac{5}{6}$

4) Add together 724 and 879 1,603

White Rose Maths

Challenge - compare decimals using ≤ or ≥

5) 4.26 < 4.6

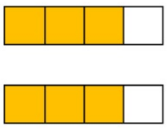
6) 5.66 < 6.05

7) 3.45 < 3.54

8) 2.75 < 2.8

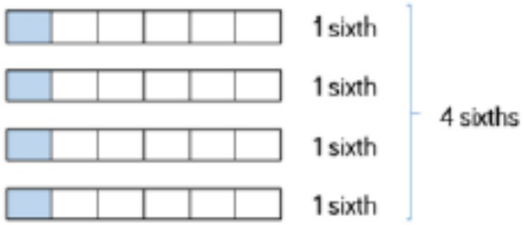
How is multiplying fractions similar to adding fractions?

$$2 \times \frac{3}{4}$$



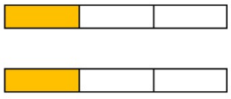
Work out $\frac{1}{6} \times 4$ by counting in sixths.

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

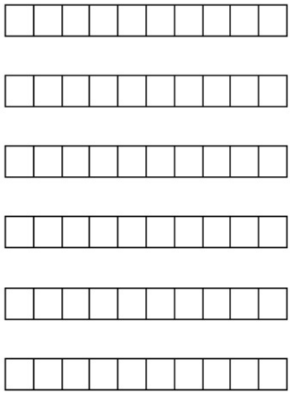


Use this method to work out:

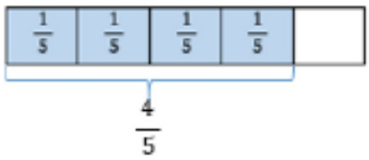
$2 \times \frac{1}{3}$



$6 \times \frac{1}{10}$

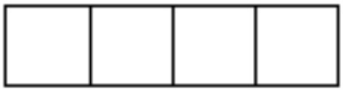


Mo uses a single bar model to work out: $\frac{1}{5} \times 4 = \frac{4}{5}$

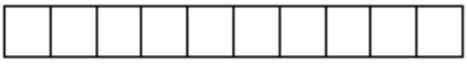


Use this method to work out:

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

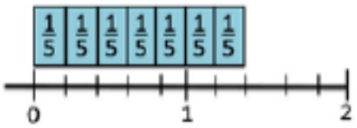


$\frac{1}{10} \times 8$



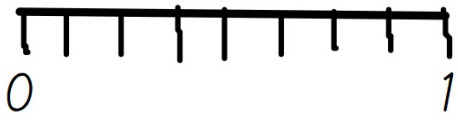
Eva uses a number line and repeated addition to work out

$\frac{1}{5} \times 7 = \frac{7}{5} = 1\frac{2}{5}$

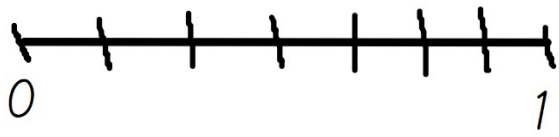


Use this method to work out:

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



$\frac{1}{4} \times 7$



Which method do you prefer and why?

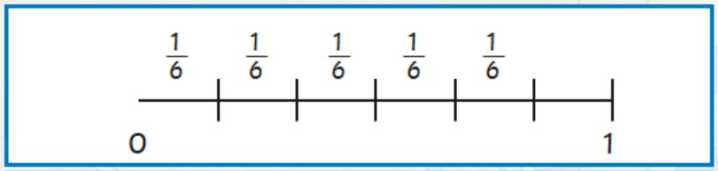
Match each calculation to the correct model that represents it and then complete the calculations.

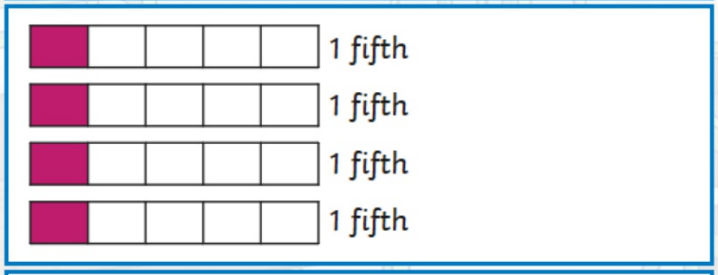
$4 \times \frac{1}{5} =$ ☐

$5 \times \frac{1}{6} =$ ☐

$\frac{1}{8} \times 3 =$ ☐

$\frac{1}{4} \times 3 =$ ☐





Answers

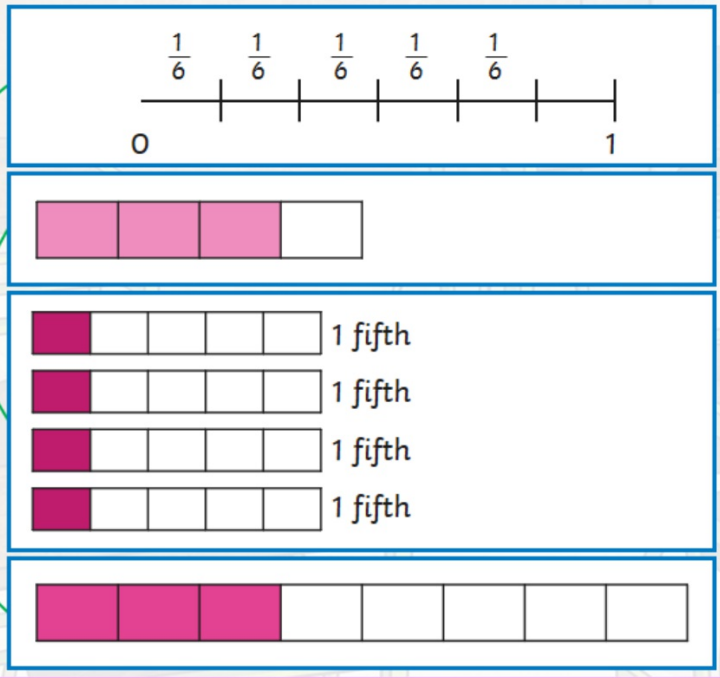
Match each calculation to the correct model that represents it and then complete the calculations.

$4 \times \frac{1}{5} = \frac{4}{5}$

$5 \times \frac{1}{6} = \frac{5}{6}$

$\frac{1}{8} \times 3 = \frac{3}{8}$

$\frac{1}{4} \times 3 = \frac{3}{4}$



1.3.21

Have a go at the questions on the sheet attached.

Reasoning challenges

I am thinking of a unit fraction.

When I multiply it by 4 it will be equivalent to $\frac{1}{2}$

When I multiply it by 2 it will be equivalent to $\frac{1}{4}$

What is my fraction?

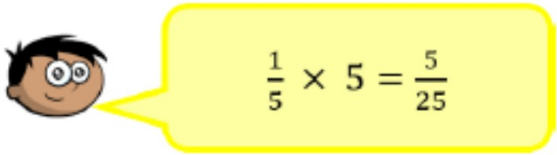
What do I need to multiply my fraction by so that my answer is equivalent to $\frac{3}{4}$?

Can you create your own version of this problem?

Always, sometimes, never?

When you multiply a unit fraction by the same number as it's denominator the answer will be one whole.

Amir is multiplying fractions by a whole number.



Can you explain his mistake?

Find 3 possible solutions to complete this calculation.