

L.O. To find fractions of
amounts

Starter

- Round these numbers to the nearest **whole number**:

1) 4.2

2) 8.6

3) 15.8

4) 62.6

5) 8.17

6) 29.81

Problem of the day

Write the two missing values to make these equivalent fractions correct.

$$\frac{\boxed{}}{3} = \frac{8}{12} = \frac{4}{\boxed{}}$$

Problem of the day

Answer

Write the two missing values to make these equivalent fractions correct.

$$\frac{\boxed{2}}{3} = \frac{8}{12} = \frac{4}{\boxed{6}}$$

$$2 \times 4 = 8$$

$$3 \times 4 = 12$$

What do you do the denominator, the same
you do to the numerator.

$$8 \text{ divided by } 2 = 4$$

$$12 \text{ divided by } 2 = 6$$

Finding fractions of amounts

- How do I find a fraction of an amount?
- For example $\frac{3}{4}$ of 24?
- Divide by the denominator and multiply by the numerator.
- But why?
- Let's look at how to explain what we are doing.

Quantities: Unit Fractions

Laura draws a bar to represent the number 12.



Here is an explanation of how she can use this to calculate $\frac{1}{4}$ of 12.

Divide the bar into 4 equal parts. Each part will represent 3. One part will represent $\frac{1}{4}$.

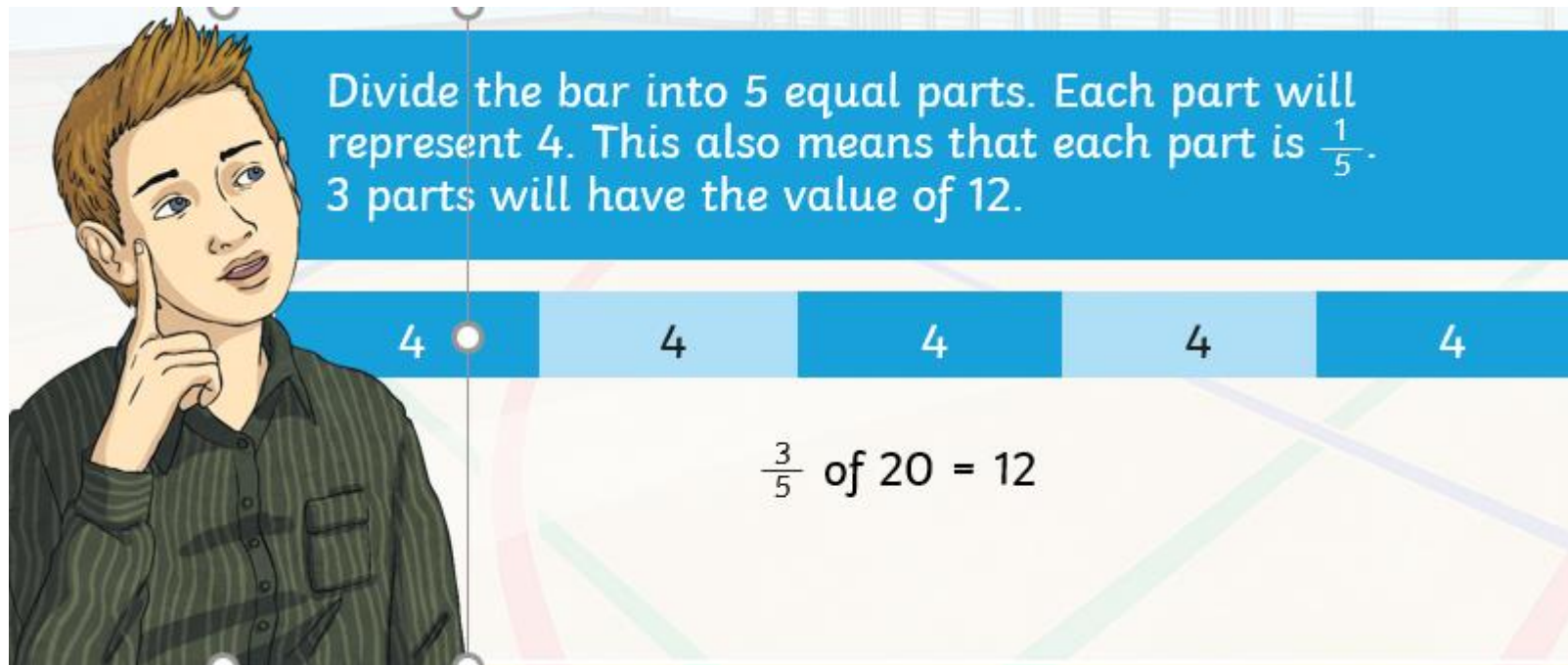


$$\frac{1}{4} \text{ of } 12 = 3$$

$$\begin{array}{r} \underline{\quad} \times 4 = 12 \\ 3 \times 4 = 12 \end{array}$$

- Can you now try representing $\frac{3}{5}$ of 20 using a bar model?

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$$4 \times 5 = 20$$

Quantities of Objects

Laura gives an explanation of finding $\frac{2}{3}$ of 36 using a range of objects.

"Take 36 objects.

Share the objects into three equal groups. Each group is $\frac{1}{3}$, and each $\frac{1}{3}$ has 12 objects. To find $\frac{2}{3}$ you need to join 2 groups, altogether this will give you 24.



Discuss this explanation and make any corrections or improvements. Compare your new explanation with another pair.

Answer

Quantities of Objects

Laura gives an explanation of finding $\frac{2}{3}$ of 36 using a range of objects.

"Take 36 objects.

Share the objects into three equal groups. Each group is $\frac{1}{3}$, and each $\frac{1}{3}$ has 12 objects. To find $\frac{2}{3}$ you need to join 2 groups, altogether this will give you 24.



Discuss this explanation and make any corrections or improvements. Compare your new explanation with another pair.

3 groups of 3 make 9

$9 \times 3 = 27$ (she needs to have 3 groups of 12 instead), she then needs to count 2 lots of

$$12 = 2 \times 12$$

$$\underline{\frac{2}{3} \text{ of } 36 = 36 \text{ divided by } 3 = 12, 12 \times 2 = 24}$$

Your turn – task 1

$$1/6 \text{ of } 18 =$$

$$3/6 \text{ of } 18 =$$

$$1/11 \text{ of } 77 =$$

$$5/11 \text{ of } 77 =$$

$$3/9 \text{ of } 27 =$$

$$6/8 \text{ of } 40 =$$

Your turn – task 1

$$1/6 \text{ of } 18 = 3$$

$$3/6 \text{ of } 18 = 9$$

$$1/11 \text{ of } 77 = 7$$

$$5/11 \text{ of } 77 = 35$$

$$3/9 \text{ of } 27 = 9$$

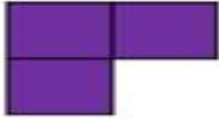
$$6/8 \text{ of } 40 = 30$$

Answer

Problem solving:

Activity A:

These three squares are $\frac{1}{4}$ of a whole shape.



Draw 2 different possibilities for the original shape.

Activity B:

Ron gives $\frac{2}{9}$ of a bag of 54 marbles to Alex.

Teddy gives $\frac{3}{4}$ of a bag of marbles to Alex.

Ron gives Alex more marbles than Teddy.

How many marbles could Teddy have to begin with?

$$\frac{2}{9} \text{ of } 54 > \frac{3}{4} \text{ of } \boxed{}$$

Activity C:

If $\frac{1}{8}$ of A = 12, find the value of A, B and C.

$$\frac{5}{8} \text{ of } A = \frac{3}{4} \text{ of } B = \frac{1}{6} \text{ of } C$$

Challenge - Task 2 choose 1 activity

TASK 2 – Plenary -Reasoning

Isabel wants to find $\frac{5}{8}$ of 80.

Explain how to find the answer and why it works. You can use a diagram to help you.