

Percentage of an amount – one step

Notes and guidance

In this small step, children calculate percentages of amounts for the first time. Children are familiar with finding fractions of amounts, but it may be worth recapping this before moving on to percentages.

Children find percentages of amounts that can be completed in one step, for example finding 1%, 10%, 20%, 25% and 50% by dividing by 100, 10, 5, 4 and 2 respectively. Using bar models to represent this allows children to see the links to finding fractions of amounts. They explore different strategies for dividing by these amounts, looking for the most efficient method for the calculation, including moving the digits when dividing by 10 and 100, halving and halving again for dividing by 4, as well as the formal written division method.

Things to look out for

- Knowing that to find 10% of a number they divide by 10 may confuse some children, leading to misconceptions such as dividing by 20 to find 20%.
- Children may answer every question by dividing the number by 100 to find 1% and then multiplying, rather than solving in one step.

Key questions

- How are percentages and fractions similar/different?
- How do you find a fraction of an amount?
- How can you represent this question with a bar model?
- How many lots of 10/20/25/50% are there in 100%?
- What do you need to divide a number by to find 10/20/25/50%?
- What strategies could you use to divide by _____?

Possible sentence stems

- There are _____ lots of _____% in 100%
To find _____% of a number, I need to divide by _____
- The whole amount is worth _____ %.
To find _____%, I need to divide the whole by _____
- If 100% is equal to _____, then _____% is equal to _____

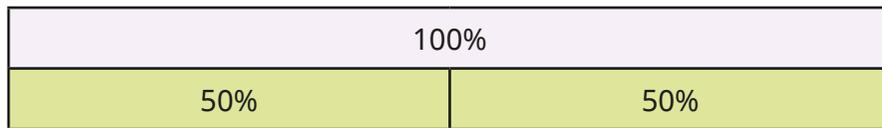
National Curriculum links

- Solve problems involving the calculation of percentages and the use of percentages for comparison

Percentage of an amount – one step

Key learning

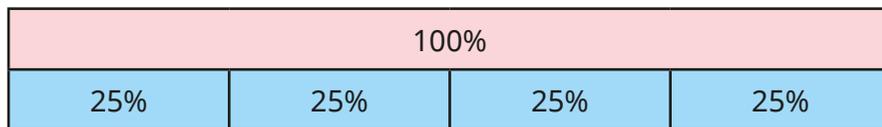
- There are two lots of 50% in 100%.



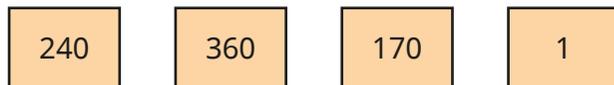
This means that to find 50% of an amount, you divide it by 2
Work out 50% of each number.



- There are four lots of 25% in 100%.



This means that to find 25% of an amount, you divide it by 4
Work out 25% of each number.



What do you notice about your answers?

Why does this happen?

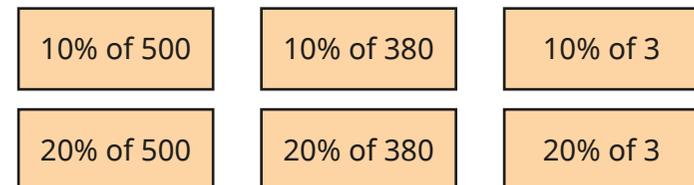
- Use the bar model to complete the sentences for 10% and 20%.



There are _____ lots of _____% in 100%.

To find _____% of an amount, you divide it by _____

- Work out the percentages.



What do you notice?

- $100 \div 100 = 1$

So to find 1% of an amount, divide it by 100

Find 1% of each number.



Percentage of an amount – one step

Reasoning and problem solving

Tiny is finding percentages of amounts.

To find 10% I divide by 10, so to find 50% I divide by 50



Explain the mistake that Tiny has made.

What do you need to divide by to find 50%?

What percentage would you find if you divided by 50?

2

2%

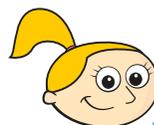


Max

My amount is greatest, because I started with the greatest amount.

Max

20% of 480



Eva

My amount is greatest, because I am finding the greatest percentage.

Eva

50% of 210



Alex

I think my amount is greatest.

Alex

25% of 424

Who do you agree with?

Talk about it with a partner.

Alex