Fractions to percentages

Notes and guidance

In this small step, children recap Year 5 learning on equivalent fractions and percentages, using visual representations, before moving on to more abstract methods.

Children use hundred squares and bar models to explore equivalents, for example $\frac{1}{5}$ is the whole split into 5 equal parts and 100% split into 5 equal parts is 20%, so $\frac{1}{5}$ = 20%. They then explore the relationship with non-unit fractions, seeing that if $\frac{1}{4}$ is equal to 25%, then $\frac{3}{4}$ = 3 × 25% = 75%. More abstract methods allow children to convert more complex examples such as $\frac{11}{25}$.

They recognise that if they can find an equivalent fraction with a denominator of 100, then they can easily find percentage equivalences. Children explore examples where they are required to multiply (for example, $\frac{9}{20}$) or divide (for example, $\frac{132}{200}$).

Things to look out for

- Children need to be able to fluently find equivalent fractions.

- Children may not be confident with factors of 100, including 20 and 25

Key questions

- What is a percentage?

- If the whole is split into 100 equal parts, then what percentage is _____ parts equivalent to?

- How are percentages and fractions similar/different?

- If you know $\frac{1}{5}$ is equal to 20%, what percentage is $\frac{4}{5}$ equal to?

- How do you find an equivalent fraction?

- How many 20s/25s are there in 100?

- What do you know about the relationship between $\frac{1}{4}$ and $\frac{1}{8}$?

Possible sentence stems

- _____% is equivalent to $\frac{\square}{100}$

- $\frac{\square}{\square}$ is equivalent to $\frac{\square}{100}$ because …

- The fraction $\frac{\square}{\square}$ is equivalent to _____%.

National Curriculum links

- Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Fractions to percentages

Key learning

- Max uses a hundred square to convert $\frac{31}{100}$ to a percentage.

$$\frac{31}{100} = 31\%$$
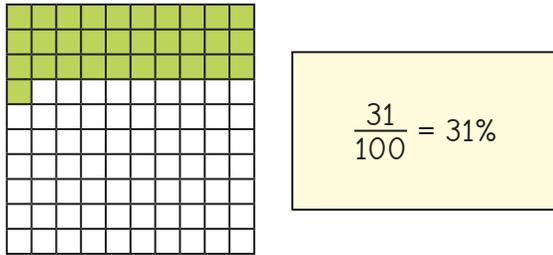
Shade hundred squares to show the fractions.

| $\frac{7}{100}$ | $\frac{49}{100}$ | $\frac{96}{100}$ | $\frac{70}{100}$ |
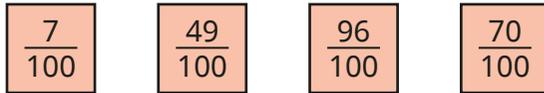
What percentage is shown on each hundred square?

- The bar models show that $\frac{1}{10}$ is equal to 10%.
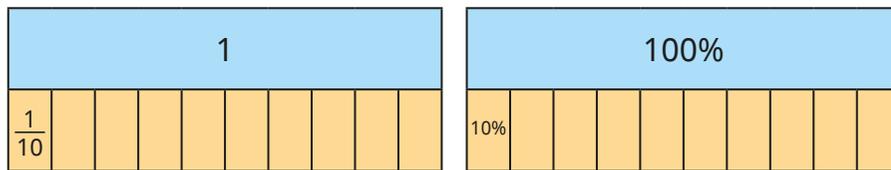
Use the bar models to complete the statements.

▶ $\frac{3}{10}$ = _____% ▶ $\frac{9}{10}$ = _____% ▶ $\frac{\square}{100}$ = 50% ▶ $\frac{\square}{\square}$ = 70%

- Whitney converts $\frac{3}{5}$ to a percentage.

$$\frac{3}{5} = \frac{60}{100} = 60\%$$
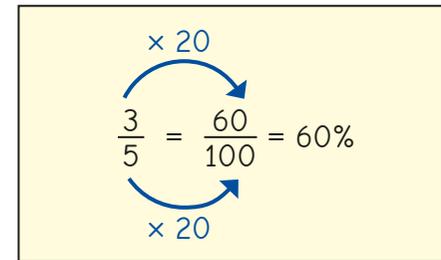
Use Whitney's method to convert the fractions to percentages.

| $\frac{3}{4}$ | $\frac{23}{50}$ | $\frac{23}{25}$ | $\frac{13}{20}$ | $\frac{14}{20}$ | $\frac{112}{200}$ |
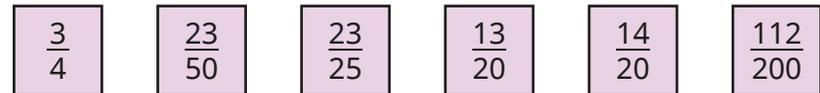
- $\frac{2}{5}$ of the people in a stadium have brown hair.

  17% of the people have ginger hair.

  $\frac{4}{25}$ of the people have black hair.

  The rest have blonde hair.

  What percentage of the people have blonde hair?

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Fractions to percentages

Reasoning and problem solving
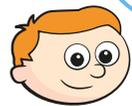
I know $\frac{2}{8}$ is equal to $\frac{1}{4}$ and $\frac{1}{4}$ is equal to 25%, so $\frac{2}{8}$ is also equal to 25%.

How can you use Ron's facts to work out $\frac{1}{8}$ as a percentage?

What is $\frac{1}{8}$ as a percentage?

12.5%

In a maths test, Scott answered 58% of the questions correctly.

Nijah answered $\frac{2}{5}$ of the questions incorrectly.

Who answered more questions correctly?

Explain your reasoning.
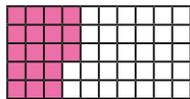
Nijah

Huan thinks that 18% of the grid has been shaded.

Dora thinks that 36% of the grid has been shaded.

Who do you agree with?

Explain your answer.

Dora

Tiny converts $\frac{13}{25}$ to a percentage.

$$\frac{13}{25} = \frac{13}{100} = 13\%$$
$$\times\ 4$$

What mistake has Tiny made?

What is the correct percentage?

52%