Hundredths as fractions

Notes and guidance

In this small step, children build on their previous learning of tenths as they begin to explore hundredths. They learn that a hundredth is 1 whole split into 100 equal parts. This idea can be explored using a variety of representations, including hundred squares, bead strings, Rekenreks and number lines. Place value charts representing hundredths are introduced in a later step.

Children relate this learning to the previous steps by understanding that 1 tenth is equivalent to $\frac{10}{100}$. They partition hundredths into tenths and hundredths, for example $\frac{21}{100}$ is made up of $\frac{2}{10}$ and $\frac{1}{100}$, or $\frac{1}{10}$ and $\frac{11}{100}$

Things to look out for

- Children may incorrectly partition a fraction and think that, for example, $\frac{12}{100}$ is made up of $\frac{1}{100}$ and $\frac{2}{100}$

- Children may confuse the words "hundred" and "hundredth".

- Children may think that hundredths are greater than tenths because 1 hundred is greater than 1 ten.

Key questions

- How many hundredths are there in 1 whole?

- How is a hundredth similar to/different from a tenth?

- How can you represent hundredths in a hundred square?

- How many hundredths are equivalent to 1 tenth?

- How can you use base 10 to represent both tenths and hundredths?

- How can you partition _____ into tenths and hundredths?

Possible sentence stems

- There are _____ hundredths in _____ tenths.

- _____ hundredths is equivalent to _____ tenths and _____ hundredths.
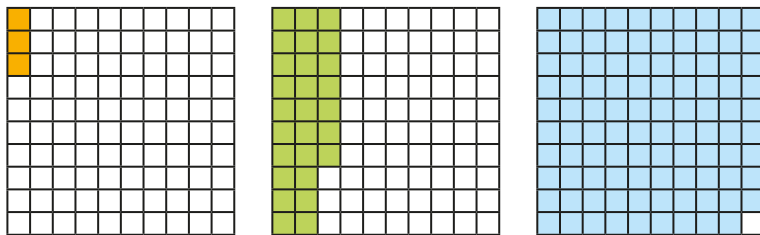
National Curriculum links

- Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10

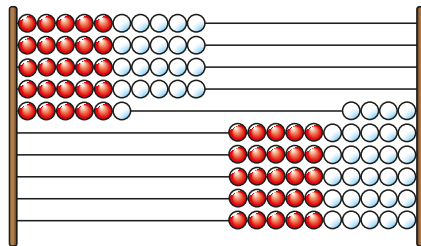- Recognise and show, using diagrams, families of common equivalent fractions

Hundredths as fractions

Key learning

- Each part of a hundred square is worth $\frac{1}{100}$

  What fraction of each hundred square is shaded?

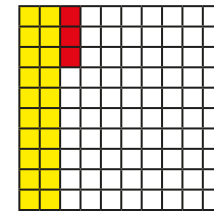- This Rekenrek is made up of 100 beads.

  If the Rekenrek represents 1 whole, what fraction is shown on the left?

  What fraction is shown on the right?

- Use a hundred square to help fill in the missing numbers.

  ▶ $\frac{3}{10} = \frac{\square}{100}$ ▶ $\frac{70}{100} = \frac{\square}{10}$ ▶ $\frac{90}{100} = \frac{\square}{10}$
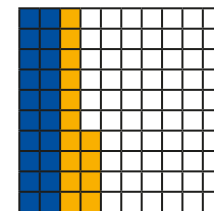
- Eva uses a hundred square to see that $\frac{23}{100}$ is equivalent to $\frac{2}{10} + \frac{3}{100}$

  Use Eva's method to help fill in the missing numbers.

  ▶ $\frac{45}{100} = \frac{\square}{10} + \frac{\square}{100}$ ▶ $\frac{59}{100} = \frac{\square}{10} + \frac{\square}{100}$ ▶ $\frac{\square}{100} = \frac{7}{10} + \frac{73}{100}$

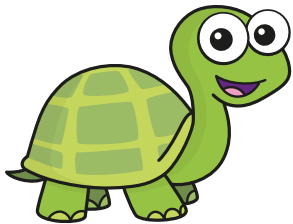- Dexter has partitioned $\frac{34}{100}$ into $\frac{2}{10}$ and $\frac{14}{100}$

  Use Dexter's method to partition the numbers in two different ways.

  $\frac{52}{100}$ $\frac{81}{100}$ $\frac{39}{100}$

Hundredths as fractions

Reasoning and problem solving

45 hundredths is greater than 5 tenths, because 45 is greater than 5

Do you agree with Tiny?

Explain your answer.

No

Work out the missing number.

$$\frac{3}{10} + \frac{12}{100} = \frac{\square}{100}$$

How did you work it out?

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Fill in the missing numbers.

$$\frac{3}{10} + \frac{2}{100} = \frac{2}{10} + \frac{\square}{100}$$

$$\frac{14}{100} + \frac{3}{10} = \frac{4}{10} + \frac{\square}{100}$$

$$\frac{5}{10} + \frac{1}{100} < \frac{5}{10} + \frac{\square}{100}$$

$$\frac{5}{10} + \frac{1}{100} > \frac{\square}{10} + \frac{5}{100}$$

$$\frac{37}{100} + \frac{\square}{100} = \frac{100}{100}$$

$$\frac{2}{10} + \frac{\square}{100} = 1$$

Is there more than one answer for each number sentence?

12

4

any number greater than 1

0, 1, 2, 3 or 4

63

80