

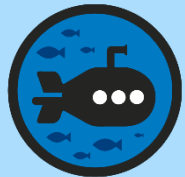
Percentages as Fractions and Decimals

Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:



Diving



Deeper



Deepest

These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

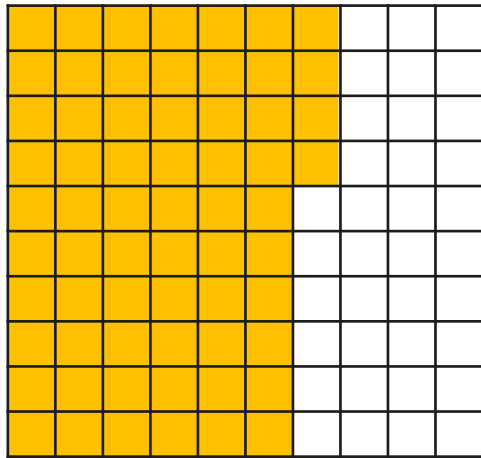
Aim

- Recognise the per cent symbol and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.

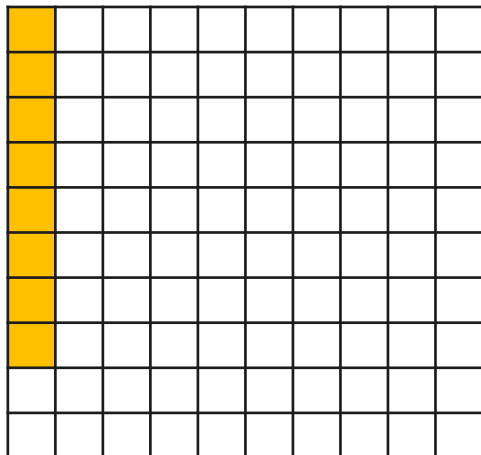




Complete the statements.



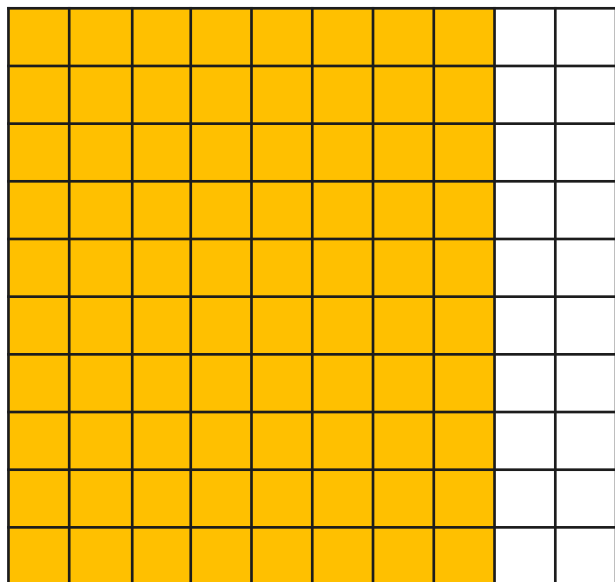
$$= \boxed{64} \text{ parts per 100} = \boxed{64\%} = \frac{\boxed{64}}{\boxed{100}} = 0.64$$



$$= \boxed{8} \text{ parts per 100} = \boxed{8\%} = \frac{\boxed{8}}{\boxed{100}} = \boxed{0.08}$$



Which is the odd one out? Why?

A corkboard with four notes pinned to it. The top-left note is white and says "80%". The top-right note is green and says "0.08". The bottom-left note is white and says "80 parts per 100". The bottom-right note is white and shows a fraction $\frac{80}{100}$. A black arrow points from the green note to the fraction note.

The decimal 0.08 is the odd one out as it is equivalent to 8%. The other amounts are all 80% or equivalent.



True or false?

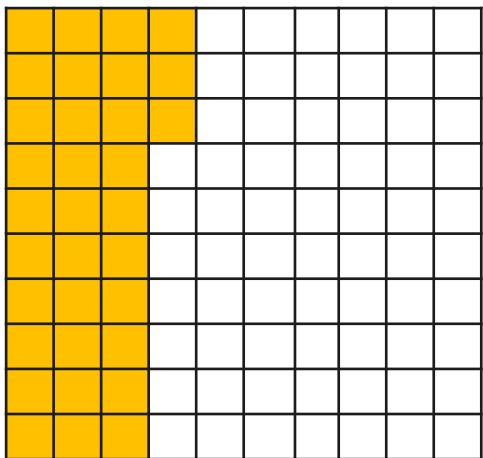
$$\frac{42}{100} < 0.8 > 14\%$$

True.

$$30 \text{ parts per hundred} > 4\% > 0.3$$

False.
4% = 0.04 which is not greater than 0.3 so this is false.

$$18\% <$$



$$< 0.5$$

True.



Which numbers fill the table to make it correct?

Fraction	Fraction with a Denominator of 100	Percentage	Decimal
$\frac{40}{50}$	$\begin{array}{c} \textcircled{\times 2} \\ \frac{40}{50} = \frac{80}{100} \\ \textcircled{\times 2} \end{array}$	80 %	0.8 or 0.80
$\frac{30}{50}$	$\begin{array}{c} \textcircled{\times 2} \\ \frac{30}{50} = \frac{60}{100} \\ \textcircled{\times 2} \end{array}$	60 %	0.6 or 0.60
$\frac{80}{200}$	$\begin{array}{c} \textcircled{\div 2} \\ \frac{80}{200} = \frac{40}{100} \\ \textcircled{\div 2} \end{array}$	40 %	0.4 or 0.40
$\frac{130}{200}$	$\begin{array}{c} \textcircled{\div 2} \\ \frac{130}{200} = \frac{65}{100} \\ \textcircled{\div 2} \end{array}$	65 %	0.65



Three children are describing a different percentage.

Give two possible percentages that each child could be describing.



The fraction equivalent to my percentage is between $\frac{20}{100}$ and $\frac{20}{50}$.

Sammy

Sammy's percentage is any between 20% and 40%.



As a decimal, my percentage is between 0.15 and 0.2.

Ethan

Ethan's percentage is any between 15% and 20%.



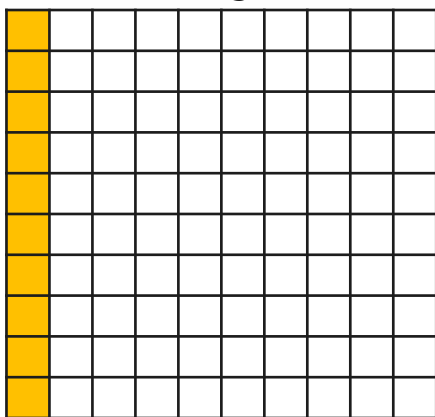
My percentage is between 0.13 and $\frac{70}{100}$.

Nadia

Nadia's percentage is any between 13% and 35%.



Read each child's statement.
Explain and correct any mistakes they have made.



There is between 0.2 and 30% of the 100 square coloured in.

Ada



If I coloured in another 0.9 of this 100 square it would be 100% coloured in.

Leo



The fraction of the 100 square coloured in is $\frac{10}{50}$.

Oscar



Oscar is incorrect.

The fraction of the square coloured in is $\frac{10}{100}$. This is equivalent to $\frac{5}{50}$ not $\frac{10}{50}$.
coloured in for Ada's statement to be accurate. There is actually only 10% of the squares coloured in.



Tao has driven 178 miles of a 200 mile journey.

Eva has driven 320 miles of a 400 mile journey.

James has driven 210 miles of a 300 mile journey.

Give each person's journey as a fraction, percentage and decimal.

Which person has completed the greatest proportion of their journey? Give the remainder of their journey as a decimal.

$$\text{Tao: } \frac{178}{200} = \frac{89}{100} = 89\% = 0.89$$

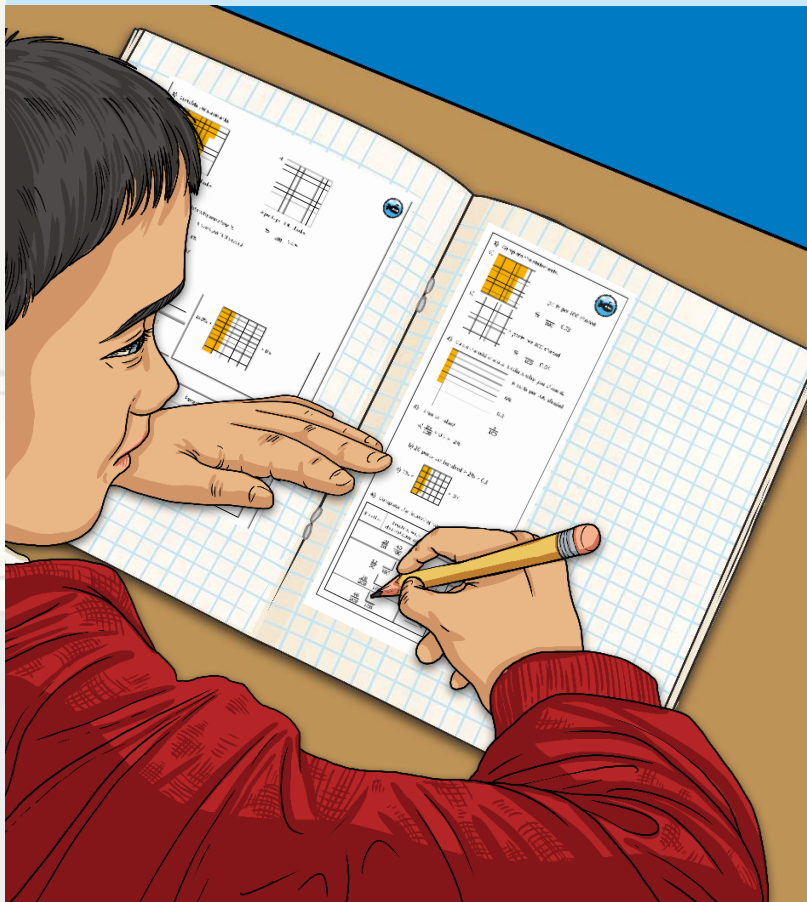
$$\text{Eva: } \frac{320}{400} = \frac{80}{100} = 80\% = 0.8$$

$$\text{James: } \frac{210}{300} = \frac{70}{100} = 70\% = 0.7$$

Tao has completed the greatest proportion of the journey. He has 0.11 of his journey remaining.

Percentages as Fractions and Decimals

Dive in by completing your own activity!



1) Three children gave two children each a 100 square. They used their 100 squares to represent different percentages. Write down the percentage each child represented.

Samir $\frac{\quad}{100} = 0.73$

Keevi $\frac{4}{100} = \frac{\quad}{100} = \quad\%$

Harry $\frac{6}{100} = \quad\%$

Dilab $\frac{60}{100} = \quad\%$

Adam $\frac{20}{100} = \quad\%$

2) Ju has written down four percentages. Look carefully at the 100 squares and circle the odd one out. Explain why you chose it.

a) 20 parts per hundred $\frac{20}{100}$ $\frac{20}{100} = 0.2$

b) 10% $\frac{10}{100} = 0.1$

c) $\frac{80}{200} = 0.4$

3) Read each statement and write True or False.

a) $\frac{85}{100} < 0.9 > 12\%$ _____

b) 20 parts per hundred $> 2\% > 0.1$ _____

c) $5\% < \frac{5}{100} < 0.4$ _____

4) Complete the following number statements.

Fraction	Fraction with a Denominator of 100	Percentage	Decimal
$\frac{20}{50} = \frac{40}{100}$	$\frac{40}{100}$	$\quad\%$	\quad
$\frac{12}{50} = \frac{\quad}{100}$	$\frac{\quad}{100}$	$\quad\%$	\quad
$\frac{20}{200} = \frac{\quad}{100}$	$\frac{\quad}{100}$	$\quad\%$	\quad
$\frac{90}{200} = \frac{\quad}{100}$	$\frac{\quad}{100}$	$\quad\%$	\quad

Need Planning to Complement this Resource?

National Curriculum Aim

Recognise the per cent symbol and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal

For more planning resources to support this aim, [click here](#).

The collage displays various resources for teaching percentages. At the top left is a video thumbnail titled 'Tell Me' featuring a deer and a percentage sign. Next to it is a video thumbnail for 'Percentage Power' with a play button. To the right is a video thumbnail for 'Percentage Diagrams' showing a grid with 55% shaded. Further right is a video thumbnail for 'Percentage Jigsaws' with a play button and the equation $63\% = \frac{63}{100} = 0.63$. On the far right is a video thumbnail for 'Equivalent Match Up' showing a jigsaw puzzle. Below these are four worksheet thumbnails: 'Fractions: Percentage Power', 'Percentage Colouring', 'Fractions: Percentage Jigsaws', and 'Percentage Equivalents Jigsaw'. The Twinkl Planit logo is in the bottom right corner of the collage.

Twinkl PlanIt is our award-winning scheme of work with over 4000 resources.



