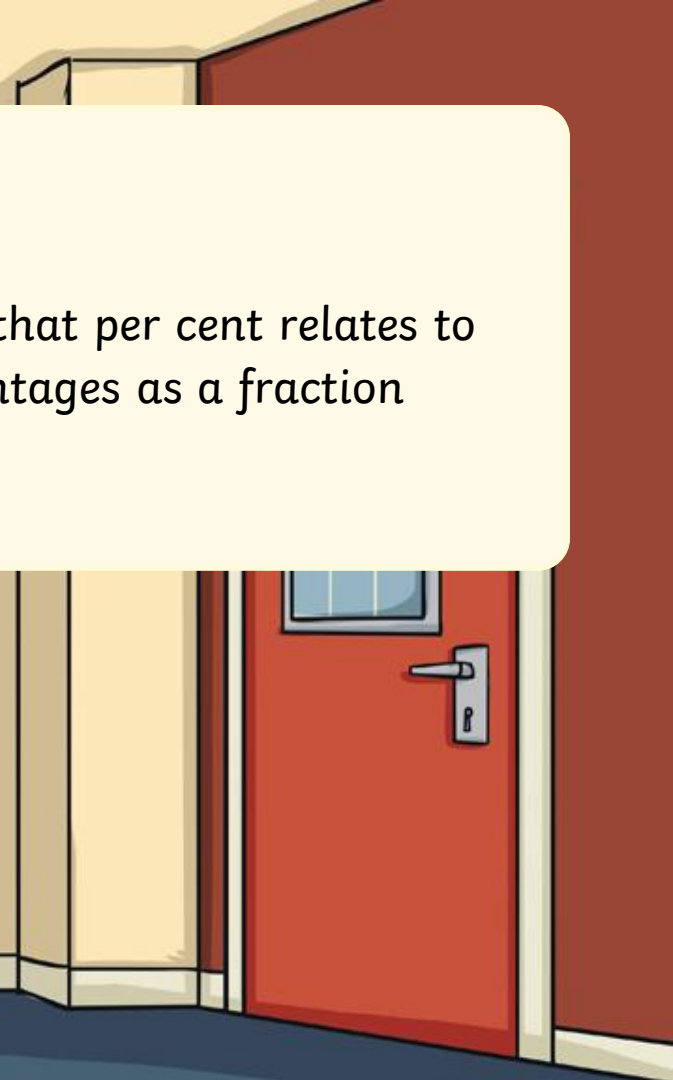


# Percentages as Fractions and Decimals

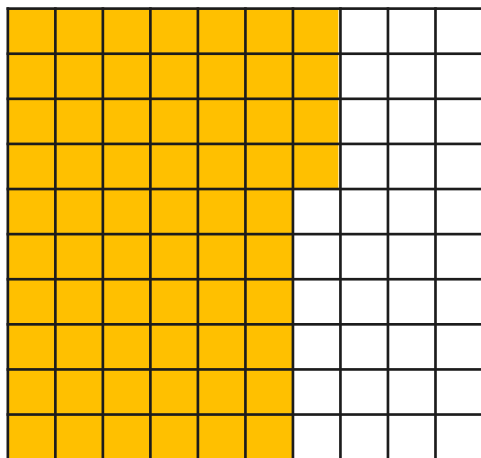
# Aim

- 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.

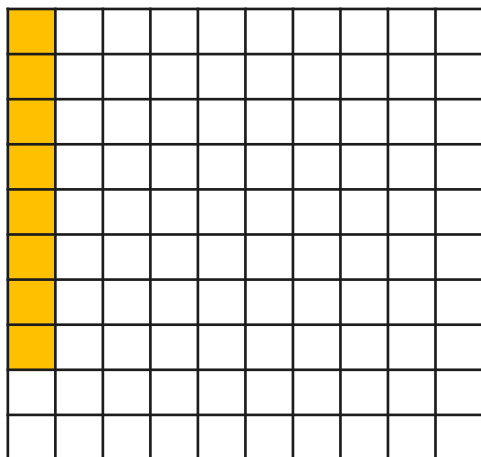




Complete the statements.



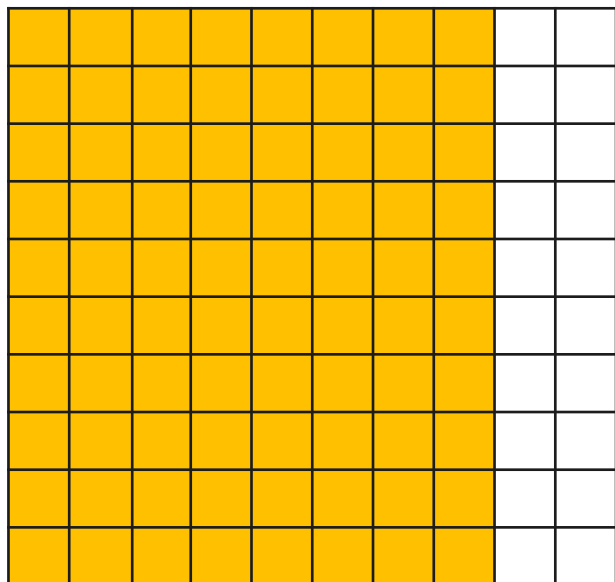
$$= \boxed{64} \text{ parts per 100} = \boxed{64\%} = \frac{\boxed{64}}{\boxed{100}} = 0.64$$



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



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.

80%

0.08

80 parts per 100

$\frac{80}{100}$

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?

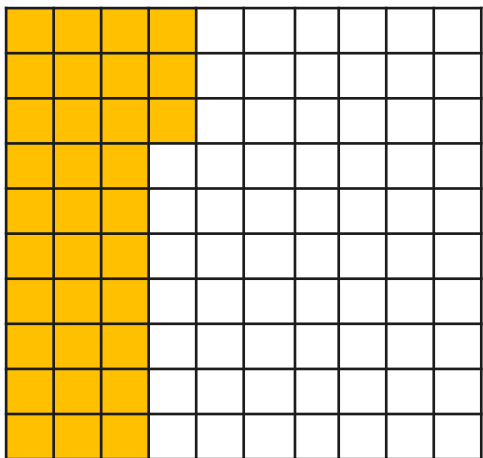
$$\frac{42}{100} < 0.8 > 14\%$$

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
$\frac{40}{50}$	$\begin{array}{ccc} & \textcircled{\times 2} & \\ & \swarrow \quad \searrow & \\ \frac{40}{50} & = & \frac{80}{100} \\ & \swarrow \quad \searrow & \\ & \textcircled{\times 2} & \end{array}$	<b>80 %</b>	<b>0.8 or 0.80</b>
$\frac{30}{50}$	$\begin{array}{ccc} & \textcircled{\times 2} & \\ & \swarrow \quad \searrow & \\ \frac{30}{50} & = & \frac{60}{100} \\ & \swarrow \quad \searrow & \\ & \textcircled{\times 2} & \end{array}$	<b>60 %</b>	<b>0.6 or 0.60</b>
$\frac{80}{200}$	$\begin{array}{ccc} & \textcircled{\div 2} & \\ & \swarrow \quad \searrow & \\ \frac{80}{200} & = & \frac{40}{100} \\ & \swarrow \quad \searrow & \\ & \textcircled{\div 2} & \end{array}$	<b>40 %</b>	<b>0.4 or 0.40</b>
$\frac{130}{200}$	$\begin{array}{ccc} & \textcircled{\div 2} & \\ & \swarrow \quad \searrow & \\ \frac{130}{200} & = & \frac{65}{100} \\ & \swarrow \quad \searrow & \\ & \textcircled{\div 2} & \end{array}$	<b>65 %</b>	<b>0.65</b>



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%.



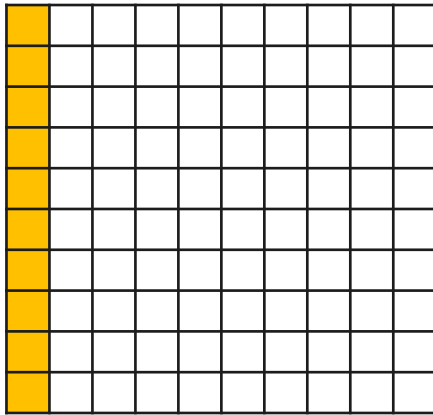
My percentage is between 0.13 and  $\frac{70}{100}$ .

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.

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

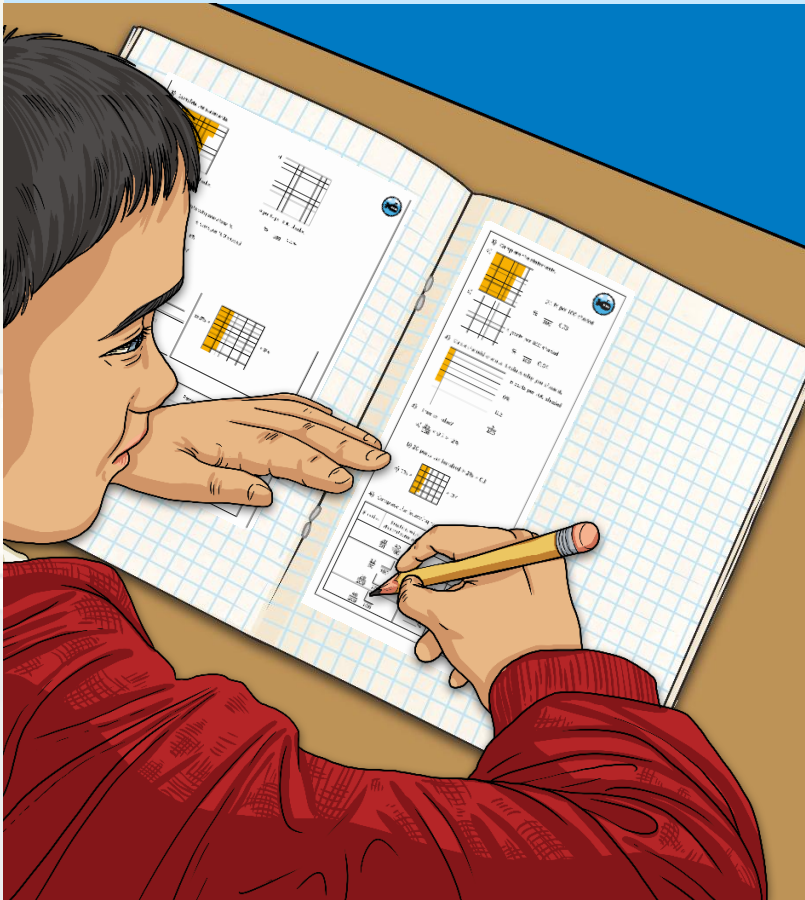
$$\text{Eva: } \frac{320}{400} = \frac{80}{100} = 80\% = 0.8$$

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

**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 10p coin.

Samir  
Harry  
Emily  
Harry  
Adam

2) Give each child a 10p coin.

Samir  
Emily  
Harry  
Harry  
Adam

b) Which is a better deal?

a) 20p per 100  
b) 10% per 100  
c) 80/200 = 40%

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)  $5\% < 0.4$

4) Complete the following number statements.

Fraction	Fraction with a Denominator of 100	Percentage	Decimal
$\frac{20}{50} =$	$\frac{40}{100}$	___ %	___
$\frac{12}{50} =$	$\frac{24}{100}$	___ %	___
$\frac{20}{200} =$	$\frac{10}{100}$	___ %	___
$\frac{90}{200} =$	$\frac{45}{100}$	___ %	___

# 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. At the top right is a video thumbnail for 'Equivalent Match Up' showing a jigsaw puzzle. Below these are four worksheet thumbnails: 'Fractions: Percentage Power' with a table, 'Percentage Colouring' with a grid, 'Fractions: Percentage Jigsaws' with a table, and 'Percentage Equivalents Jigsaw' with a jigsaw puzzle. 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.



