



Knowledge Organiser



Number

Year 5

Decimals & Percentages

Decimals and percentages are used a lot in everyday life, especially with money. Our knowledge of fractions and place value can help us develop our understanding of decimals and percentages.

Builds from Year 4:

Write tenths and hundredths as equivalent decimals.
Compare numbers with the same number of decimal places.

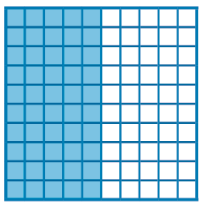
This year:

Equivalent fractions, decimals and percentages.
Round decimal numbers.
Read, write, order and compare decimal numbers.
Recognise the per cent symbol (%).
To understand that 'per cent' relates to 'number of parts per 100'.

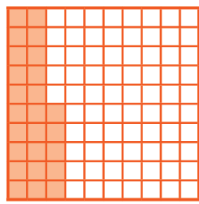
Leads to Year 6:

Recall equivalences between fractions, decimals and percentages.
Calculate a percentage.
Solve problems involving fractions, decimals and percentages.

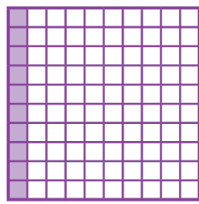
Equivalent Percentages & Decimals



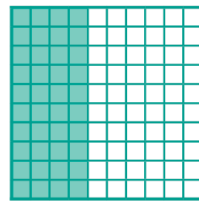
$$50\% = \frac{50}{100} = \frac{1}{2} = 0.5$$



$$25\% = \frac{25}{100} = \frac{1}{4} = 0.25$$



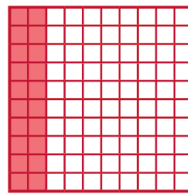
$$10\% = \frac{10}{100} = \frac{1}{10} = 0.1$$



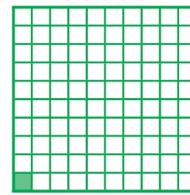
$$40\% = \frac{40}{100} = \frac{2}{5} = 0.4$$

A percentage will always be followed by a percentage symbol (%).

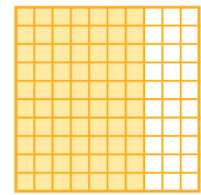
A percentage is an alternative way to represent a fraction out of 100.



$$20\% = \frac{20}{100} = \frac{1}{5} = 0.2$$



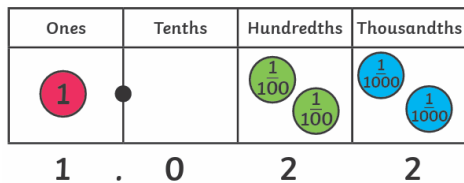
$$1\% = \frac{1}{100} = 0.01$$



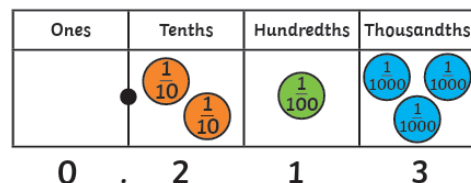
$$70\% = \frac{70}{100} = \frac{7}{10} = 0.7$$

Comparing and Ordering Decimals

To compare and order decimals, we must think carefully about their **place value**.



>



Rounding Decimals



If the **tenths digit** is 1, 2, 3 or 4, we **round down to the nearest whole number**.

If the **tenths digit** is 5, 6, 7, 8 or 9, we **round up to the nearest whole number**.



If the **hundredths digit** is 1, 2, 3 or 4, we **round down to the nearest tenth**.

If the **hundredths digit** is 5, 6, 7, 8 or 9, we **round up to the nearest tenth**.

Key Vocabulary

tenths hundredths decimal decimal point place value per cent (%) = out of 100 percentage
equivalent decimal convert whole

