Fractions, decimals and percentages

Lesson sequence

- Decimals up to 2 decimal places
- Equivalent fractions and decimals (tenths and hundredths)
- Equivalent fractions and decimals
- Thousandths as fractions
- Thousandths as decimals
- Thousandths on a place value chart
- Order and compare decimals
- Round decimals (nearest whole number and 1 decimal place)
- Understand percentages
- Percentages as fractions and decimals
- Equivalent fractions, decimals and percentages

Vocabulary

- Multiply
- Rounding
- Fraction wall
- Place value
- Fraction
- Quantity
- Percentages
- Thousandths

- Integer
- Tenths
- Hundredths
- Unit fraction
- Non-unit fraction

Sticky learning

New Knowledge

- To know that per cent relates to "number of parts per hundred"
- To recognise the per cent symbol (%)
- To know that mixed numbers are a whole number and a fraction
- To know that percentages, fractions and decimals are connected (for example, 100% represents a whole quantity and 1% is 1/100, 50% is 50/100, 25% is 25/100)
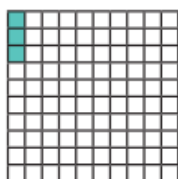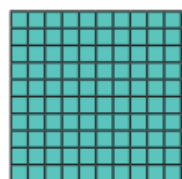
New Skills

- To use thousandths and relate them to tenths, hundredths and decimal equivalents
- To write percentages as a fraction with denominator 100 as a decimal fraction
- To count in decimals and fractions, bridging zero
- To interpret non-integer answers to division by expressing results in different ways according to the context, as fractions, as decimals or by rounding
- To use thousandths and relate them to tenths, hundredths and decimal equivalents
- Round decimals with two decimal places to the nearest whole number and to one decimal place
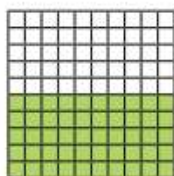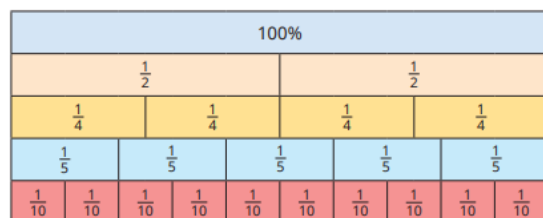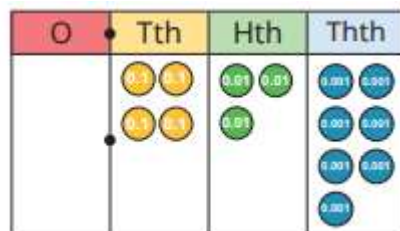
Concept Links/Prior Knowledge

- Converting fractions into decimals
- Order and compare decimals
- Round decimals numbers to the nearest whole and 1 decimal place
- Know the value of digits in decimal numbers
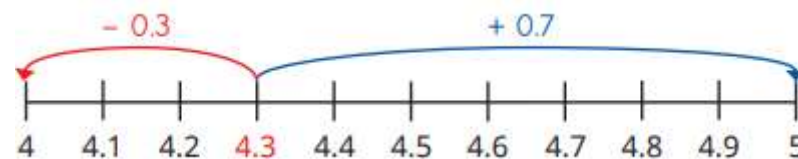
Pictorial representations

$\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$ $\frac{1}{10}$

0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1

1.3

O	Tth	Hth	Thth

100%

| $\frac{1}{2}$ | | $\frac{1}{2}$ | |
| $\frac{1}{4}$ | $\frac{1}{4}$ | $\frac{1}{4}$ | $\frac{1}{4}$ |

| $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ | $\frac{1}{5}$ |

| $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ |

$\frac{50}{100}$ is shaded.

0.5 is shaded.

50% is shaded.

Abstract Representations

Rounding with a number line

− 0.3   + 0.7

4   4.1   4.2   4.3   4.4   4.5   4.6   4.7   4.8   4.9   5

Fractions as decimals

Fraction $\frac{9}{10}$

Decimal   0.9

Fractions decimals percentages

$$\frac{50}{100} = \frac{5}{10} = \frac{1}{2} = 50\%$$