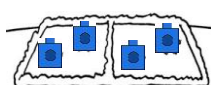


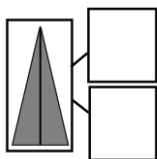


Fractions: Overview

unequal equal



"There are two equal parts."



Numerator

___ equal parts are highlighted

Denominator

There are ___ equal parts altogether



"Two sixths is equal to one third"

Concepts: Understanding fractions, Comparing fractions, Equivalences, Calculating with fractions



"Zero, one tenth, two tenths...."

Reception

- Exploration of counting in equal groups
- Understand halving as splitting into two equal groups

Year 1

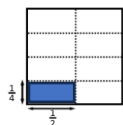
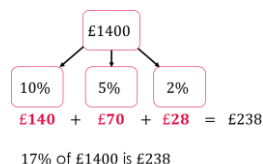
- Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity
- Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity

Year 2

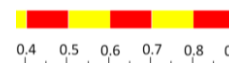
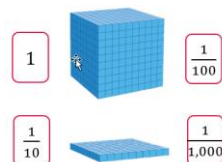
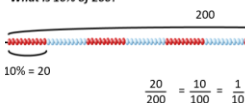
- Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity
- Write simple fractions, for example $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{2}{4}$.

Year 3

- Develop an understanding of tenths; count up and down in tenths
- Recognise, use as numbers, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- Compare and order unit fractions, and fractions with the same denominators
- Recognise and show, using diagrams, equivalent fractions with small denominators
- Add and subtract fractions with the same denominator within one whole
- Solve problems that involve all of the above



What is 10% of 200?



0.52 = 52 hundredths



$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$$

Year 6

- Use common factors to simplify fractions; use common multiples to express fractions in the same denomination
- Identify the value of each digit in numbers given to 3 decimal places
- Compare and order fractions, including fractions >1
- Recall and use equivalences between simple fractions, decimals and percentages
- Add and subtract fractions with different denominators and mixed numbers
- Multiply simple pairs of proper fractions
- Divide proper fractions by whole numbers
- Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction
- Multiply/divide numbers by powers of 10 giving answers up to 3 decimal places
- Multiply one-digit numbers with up to 2 decimal places by whole numbers
- Use written division methods in cases where the answer has up to 2 decimal places
- Solve problems which require answers to be rounded to specified degrees of accuracy

Year 5

- Recognise mixed numbers and improper fractions and convert from one form to the other
- Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- Round decimals with 2 decimal places
- Read, write, order, compare and solve problems numbers with up to 3 decimal places
- Develop understanding of percentages (%) as a 'number of parts per 100'
- Compare and order fractions whose denominators are all multiples of the same number
- Read and write decimal numbers as fractions
- Identify, name and write equivalent fractions of a given fraction, including tenths and hundredths
- Add and subtract fractions with the same denominator, and denominators that are multiples of the same number
- Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- Solve problems which require knowing percentage and decimal equivalents of common fractions

Year 4

- Round decimals with 1 decimal place to the nearest whole number
- Develop understanding of hundredths
- Compare numbers with the same number of decimal places up to 2 decimal places
- Recognise and show, using diagrams, families of common equivalent fractions
- Recognise and write decimal equivalents of any number of tenths or hundreds, $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$
- Solve problems involving increasingly harder fractions to calculate quantities
- Add and subtract fractions with the same denominator
- Divide a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
- Solve simple measure and money problems involving fractions and decimals to 2 decimal places



Fractions: Concept breakdown

Note: Statutory Curriculum requirements are in **bold**

	Reception	→	Year 1	→	Year 2	→	Year 3	→	Year 4	→	Year 5	→	Year 6
Understanding fractions including decimals and percentages													
Recognising and representing fractions	Exploration of counting in equal groups; Understand halving as splitting into two equal groups Unit 10 ; Unit 12		Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity Unit 10 ; Unit 15 Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity Unit 10 ; Unit 15		Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity Unit 8 Write simple fractions, for example $\frac{1}{2}$ of 6 = 3 Unit 8		Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators Unit 9 Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators Unit 9		<i>Pupils continue to develop understanding of interpretations of fractions including:</i> - Fractions as a part of a whole - Fractions as a number - Fractions as a set - Fractions as a result of division Unit 6		Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{3}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] Unit 6		Use common factors to simplify fractions; use common multiples to express fractions in the same denominator Unit 4
Tenths, hundredths and thousandths							Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 Unit 9 ; Pupils continue to embed during transitions and Maths Meetings		Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10 Unit 8 Pupils continue to embed during transitions and Maths Meetings		Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Pupils continue to embed during transitions and Maths Meetings Unit 6		<i>In Year 6 pupils continue to count in steps of tenths, hundredths and thousandths during Maths Meetings</i>
Representing decimals and percentages									<i>Pupils learn decimal notation and the language associated with it, including in the context of measurements.</i> Unit 8		Read, write, order and compare numbers with up to 3 decimal places Unit 6 Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100' Unit 8		Identify the value of each digit in numbers given to 3 decimal places Unit 1



Fractions: Concept breakdown

Note: Statutory Curriculum requirements are in **bold**

Reception → Year 1 → Year 2 → Year 3 → Year 4 → Year 5 → Year 6							
Comparing fractions including decimals							
Comparing fractions				Compare and order unit fractions, and fractions with the same denominators Unit 9	<i>Pupils continue to consolidate Y3 content with an emphasis on reasoning. They use pictorial representations to begin exploring different denominators (Y5 objective).</i> Unit 6	Compare and order fractions whose denominators are all multiples of the same number Unit 6	Compare and order fractions, including fractions >1 Unit 4
Comparing Decimals					Compare numbers with the same number of decimal places up to 2 decimal places Unit 8	Read, write, order and compare numbers with up to 3 decimal places Unit 6	<i>Pupils continue to read, write, order and compare numbers with up to 3 decimal places</i> Unit 1
Equivalent fractions including decimals and percentages							
Fraction families			Recognise the equivalence of $\frac{2}{4}$ and $\frac{2}{4}$ Unit 8	Recognise and show, using diagrams, equivalent fractions with small denominators Unit 9	Recognise and show, using diagrams, families of common equivalent fractions Unit 6	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths Unit 6	
Equivalents between fractions, decimals and percentages					Recognise and write decimal equivalents of any number of tenths or hundreds Unit 8 Recognise and write decimal equivalents of any number of tenths or hundreds, $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ Unit 8	Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$] Unit 6 Write percentages as a fraction with denominator 100, and as a decimal fraction Unit 6 Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25 Unit 8	Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$] Unit 4 Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts Unit 4



Fractions: Concept breakdown

*Note: Statutory Curriculum requirements are in **bold***

Reception → Year 1 → Year 2 → Year 3 → Year 4 → Year 5 → Year 6							
Calculating with fractions including decimals							
Add and subtract fractions				Add and subtract fractions with the same denominator within one whole [for example $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$] Unit 9	Add and subtract fractions with the same denominator Unit 6	Add and subtract fractions with the same denominator, and denominators that are multiples of the same number Unit 8	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions Unit 4
Multiply and divide fractions						Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams Unit 8	Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] Unit 4 Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$] Unit 4
Expressing answers as a decimal					Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths Unit 8	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 Unit 11	Multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places Unit 2



Fractions: Concept breakdown

Note: Statutory Curriculum requirements are in **bold**

Reception → Year 1 → Year 2 → Year 3 → Year 4 → Year 5 → Year 6

Applying knowledge of fractions including decimals and percentages

Applying knowledge of fractions		<i>Pupils apply understanding of halves and quarters whilst exploring half, quarter and three-quarter turns</i> Y1 Unit 10 ; Y2 Unit 11		Solve problems that involve all of the above Unit 6	Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number Unit 6		<i>Pupils apply understanding of fractions to express proportion and solve problems involving a scale factor of number or shape</i> Unit 10
Applying knowledge of decimals and percentages					Solve simple measure and money problems involving fractions and decimals to 2 decimal places Unit 10	Solve problems involving number up to 3 decimal places Unit 11 Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25 Unit 8	Multiply one-digit numbers with up to 2 decimal places by whole numbers Unit 4
Rounding Decimals					Round decimals with 1 decimal place to the nearest whole number Unit 8	Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place Unit 6	Solve problems which require answers to be rounded to specified degrees of accuracy Unit 1