NUMBER Progression: Fractions

The Programmes of Study are organised in distinct domains, however, in practise they are not taught so discreetly and are interwoven with other areas, for example place value and the four operations. For further detail on how this achieved through our mastery curriculum, the approximate amount of time spent on each focus termly and specific teaching areas, please see our Maths Sequence of Learning Progressions.

	Autumn	Spring	Summer
Year 1			**Halves and quarters** • Recognise, find and name a half as one of two equal parts of an object, shape or quantity. • Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity
Year 2	Autumn	Spring	Summer
		Simple and equivalence • Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, a set of objects or quantity. • Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.	

Year 3	Autumn	Spring	Summer
		Fractions as numbers and objects	**Equivalence and comparison**
		- Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. - 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. - Compare and order unit fractions, and fractions with the same denominators. - Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. - Solve problems that involve all of the above.	- Recognise and show, using diagrams, equivalent fractions with small denominators - Recognise and show, using diagrams, equivalent fractions with small denominators - Compare and order unit fractions, and fractions with the same denominators - Solve problems that involve all of the above. - Recognise and show, using diagrams, equivalent fractions with small denominators - Compare and order unit fractions, and fractions with the same denominators - Add and subtract fractions with the same denominator within one whole (for example, 5/7 + 1/7 = 6/7) - Solve problems that involve all of the above. - Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. - Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. - Solve problems that involve all of the above.

Year 4	Autumn	Spring	Summer
		Fractions (including decimals) • Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • Recognise and show, using diagrams, families of common equivalent fractions. • 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 • Add and subtract fractions with the same denominator • Recognise and write decimal equivalents of any number of tenths or hundredths. • Solve simple measure and money problems involving fractions and decimals to two decimal places • 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 • Recognise and write decimal equivalents of any number of tenths or hundredths • 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.	**Decimals** • Add and subtract fractions with the same denominator. • Recognise and write decimal equivalents of any number of tenths or hundredths • 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 • Compare numbers with the same number of decimal places up to two decimal places. • Round decimals with one decimal place to the nearest whole number. • Recognise and write decimal equivalents to 1/4, 1/2 and 3/4 • Solve simple measure and money problems involving fractions and decimals to two decimal places

Year 5	Autumn	Spring	Summer
		Fractions, decimals and percentages • Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. • 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, 2/5 + 4/5 = 6/5 = 1 1/5). • Compare and order fractions whose denominators are all multiples of the same number. • 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. • Read, write, order and compare numbers with up to three decimal places. • Read and write decimal numbers as fractions (for example, 0·71 = 71/100). • Round decimals with two decimal places to the nearest whole number and to one decimal place. • 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. • Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.	**Four operations** • Solve problems involving number up to three decimal places. • Read, write, order and compare numbers with up to three decimal places. • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. • Solve problems involving number up to three decimal places • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000.

Year 6	Autumn	Spring	Summer
	Fractions, decimals and percentages • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. • Compare and order fractions, including fractions > 1. • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. • Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example, 1/4 × 1/2 = 1/8). • Divide proper fractions by whole numbers (for example, 1/3 ÷ 2 = 1/6). • Use their knowledge of the order of operations to carry out calculations involving the four operations. • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • Use written division methods in cases where the answer has up to two decimal places.	**Fractions, decimals and percentages** • Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to three decimal places • Associate a fraction with division and calculate decimal fraction equivalents (for example, 0·375) for a simple fraction (for example, 3/8). • Use written division methods in cases where the answer has up to two decimal places • Multiply one-digit numbers with up to two decimal places by whole numbers. • Solve problems which require answers to be rounded to specified degrees of accuracy. **Percentages, ratio and proportion** • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts • Solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and the use of percentages for comparison. • Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example, 1/4 × 1/2 = 1/8). • Multiply one-digit numbers with up to two decimal places by whole numbers. • Compare and order fractions, including fractions > 1. • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. • Solve problems which require answers to be rounded to specified degrees of accuracy.	**Fractions, percentages and decimals – problem solving** • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.