Mathematics Curriculum Progression Map

Number: Fractions (including Decimals and Percentages)

EYFS		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
3-4 Year olds	**Reception**						
Counting in Fractional Steps							
	Pupils can partition a whole model Pupils can share amounts		*Pupils should count in fractions up to 10, starting from any number and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line, e.g. $1\frac{1}{4}, 1\frac{2}{4}$ (or $1\frac{1}{2}$), $1\frac{3}{4}$ 2. This reinforces the concept of*	Count up and down in tenths	Count up and down in hundredths		

			fractions as numbers and they can add up to more than one. (Non-Statutory Guidance)				
			Recognising Fractions				
		Recognise, find and name a half as one of two equal parts of an object, shape or quantity	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	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (cross reference - Equivalence)	
		Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity		Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10. Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators			

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Comparing Fractions							
				Compare and order unit fractions, and fractions with the same denominators		Compare and order fractions whose denominators are all multiples of the same number	Compare and order fractions, including fractions >1
Comparing Decimals							
					Compare numbers with the same number of decimal places up to two decimal places	Read, write, order and compare numbers with up to three decimal places	Identify the value of each digit in numbers given to three decimal places
Rounding Including Decimals							
					Round decimals with one decimal place to the nearest whole number	Round decimals with two decimal places to the nearest whole number and to one decimal place	Solve problems which require answers to be rounded to specified degrees of accuracy (cross reference - Problem Solving)
Equivalence (Including Fractions, Decimals and Percentages)							
			Write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	Recognise and show, using diagrams, equivalent fractions with small denominators	Recognise and show, using diagrams, families of common equivalent fractions	Identify, name and write equivalent fractions of a given fraction, represented visually, including	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination

						tenths and hundredths	
					Recognise and write decimal equivalents of any number of tenths or hundredths	Read and write decimal numbers as fractions e.g. $0.71 = {}^{71}/_{100}$	Associate a fraction with division and calculate decimal fraction equivalents e.g. 0.375 for a simple fraction e.g. ${}^{3}/_{8}$
						Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents *(cross reference - Recognising Fractions)*	
					Recognise and write decimal equivalents to ${}^{1}/_{4,}$ ${}^{1}/_{2},{}^{3}/_{4}$	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 as a decimal fraction	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

				Addition and Subtraction of Fractions				
				Add and subtract fractions with the same denominator within one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)	Add and subtract fractions with the same denominator	Add and subtract fractions with the same denominator and multiples of the same number	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
						Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$	
				Multiplication and Division of Fractions				
						Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Multiply simple pairs of proper fractions, writing the answer in its simplest form e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$

							Divide proper fractions by whole numbers e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$
Multiplication and Division of Decimals							
							Multiply one-digit numbers with up to two decimal places by whole numbers
					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		Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
							Associate a fraction with division and calculate decimal fraction equivalents e.g. 0.375 for a simple fraction e.g. $\frac{3}{8}$ (cross reference – Equivalence)

							Use written division methods in cases where the answer has up to two decimal places
Problem Solving							
			Children use fractions as "fractions" of discrete and continuous quantities by solving problems using shapes, objects and quantities. They connect unit fractions to equal sharing and grouping, to numbers when they can be calculated, and to measures, finding fractions of lengths, quantities, sets of objects or shapes. They meet ¾ as the first example as a non-unit fraction.	Solve problems that involve all of the above objectives	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	Solve problems involving numbers up to three decimal places	Solve problems which require answers to be rounded to specified degrees of accuracy (cross reference – Rounding including Decimals)

			(Non-statutory guidance)				
					Solve simple measure and money problems involving fractions and decimals to two decimal places.	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 with a denominator of a multiple of 10 or 25.	