

## **Mathematics Curriculum Progression Map**

## **Number: Fractions (including Decimals and Percentages)**

<u>EYFS</u>							
3-4 Year olds	<u>ception</u>	Year 1	Year 2	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>	<u>Year 6</u>
			<u>Counting</u>	in Fractional Steps			
pai v r Pu	upils can rtition a whole model upils can share mounts		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. $\frac{1}{4}$ , $\frac{1}{4}$ , $\frac{1}{4}$ (or $\frac{1}{2}$ ), $\frac{1}{4}$ , 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)				
		Recog	nising Fractions			
	Recognise, find	Recognise, find,	Recognise, find	Recognise that	Recognise and use	
a	and name a half	name and write	and write	hundredths arise	thousandths and	
	as one of two	fractions $^{1}/_{3}$ , $^{1}/_{4}$ ,	fractions of a	when dividing an	relate them to	
e	equal parts of an	J .	discrete set of	object by one	tenths,	
	object, shape or	$^{2}/_{4}$ and $^{3}/_{4}$ of a	objects: unit	hundred and	hundredths and	
	quantity	length, shape, set	fractions and non-	dividing tenths by	decimal	
		of objects or	unit fractions with	ten	equivalents	
		quantity	small		(cross reference -	
		. ,	denominators		Equivalence)	
	Recognise, find		Recognise that			
	and name a		tenths arise from			
q	quarter as one of		dividing an object			
f	four equal parts		into 10 equal			
	of an object,		parts and in			
sł	hape or quantity		dividing one –			
			digit numbers or			
			quantities by 10.			
			Recognise and use			
			fractions as			
			numbers: unit			
			fractions and non-			
			unit fractions with			
			small			
			denominators			

Comparing Fractions							
		Compare and		Compare and	Compare and		
		order unit		order fractions	order fractions,		
		fractions, and		whose	including fractions		
		fractions with the		denominators are	>1		
		same		all multiples of			
		denominators		the same number			
	<u>Com</u>	paring Decimals					
			Compare	Read, write, order	Identify the value		
			numbers with the	and compare	of each digit in		
			same number of	numbers with up	numbers given to		
			decimal places up	to three decimal	three decimal		
			to two decimal	places	places		
			places				
	Rounding	Including Decimal					
			Round decimals	Round decimals	Solve problems		
			with one decimal	with two decimal	which require		
			place to the	places to the	answers to be		
			nearest whole	nearest whole	rounded to		
			number	number and to	specified degrees		
				one decimal place	of accuracy		
					(cross reference -		
					Problem Solving)		
<u>Equi</u>	valence (Including Fr						
	Write simple	Recognise and	Recognise and	Identify, name	Use common		
	fractions	show, using	show, using	and write	factors to simplify		
	e.g. $^{1}/_{2}$ of 6 = 3	diagrams,	diagrams, families	equivalent	fractions; use		
	and recognise the	equivalent	of common	fractions of a	common		
		fractions with	equivalent	given fraction,	multiples to		
	equivalence of $^2/_4$	small	fractions	represented	express fractions		
	and $\frac{1}{2}$ .	denominators		visually, including	in the same		
	2				denomination		

write decimal equivalents of any number of tenths or hundredths  or hundredths  Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and write decimal equivalents to \(^1/_{2'}\)^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 different division division in the same equivalents to \(^1/_{2'}\)^3/_4  Recognise and write decimal equivalents to \(^1/_{2'}\)^3/_4  Recognise and write percentages as a fraction with different division e.g. 0.71 = \(^{72}\)_{100}  Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and write decimal equivalents to \(^1/_{2'}\)^3/_4  Recognise and use thousandths and relate that the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with different division e.g. 0.71 = \(^{72}\)/2 (acclulate that them to tenths, hundredths and relate that them to tenths, hundredths and relate that them to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and use thousandths and relate that the to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and use thousandths and relate that them to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and use thousandths and relate that the tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)	Γ	 1	1			
Recognise and write decimal numbers as fractions e.g. 0.71 = <sup>71</sup> / <sub>100</sub> Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and write decimal equivalents (cross reference - Recognising Fractions)  Recognise and write decimal equivalents of 1/4, 1/2, 3/4  Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and write decimal equivalents of 1/4, 1/2, 3/4  Recognise and undredths and decimal equivalents to 1/4, 1/2, 3/4  Recognise and write decimal equivalents of 1/4, 1/2, 3/4  Recognise and undredths and relate them to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and write decimal numbers as fraction with division of the tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and undredths and relate them to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and undredths and relate them to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and undredths and relate them to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and undredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and undredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and undredths and decimal equivalents (cross reference - Recognise the per cent year of the per ce						
write decimal equivalents of any number of tenths or hundredths  write decimal equivalents of any number of tenths or hundredths  write decimal equivalents of any number of tenths or hundredths  are a fractions e.g. $0.71 = ^{72}l_{100}$ Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and write decimal equivalents to $^{1}l_{2}$ , $^{1}l_{2}$ , $^{3}l_{4}$ , and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with different division division e.g. $0.71 = ^{72}l_{100}$ Recognise and equivalents (cross reference - Recognising Fractions)  Recognise and write decimal equivalents to $^{1}l_{4}$ , and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with					hundredths	
equivalents of any number of tenths or hundredths    equivalents of any number of tenths or hundredths				Recognise and	Read and write	Associate a
number of tenths or hundredths    Recognise and understand decimal equivalents (cross reference - Recognising Fractions)				write decimal	decimal numbers	fraction with
number of tenths or hundredths    Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)    Recognise and write decimal equivalents to \(^1/_2,^3/_4\) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with   Galler of the per continuous percentages as a fraction with   Galler of the per call of the percentages as a fraction with   Galler of the percentages and the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction with   Galler of the percentages are percentages as a fraction   Galler of the percentages are percentages as a frac				equivalents of any	as fractions	division and
Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (cross reference - Recognising Fractions)  Recognise and write decimal equivalents to \(^1/_2\).  Recognise and write decimal equivalents to \(^1/_2\).  Recognise and write decimal equivalents to \(^1/_2\).  Recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with different different different with the recognise and write percentages as a fraction with the first them to tenths, hundred that them to tenths, hundred that the tenths that the te				number of tenths	e.g. $0.71 = {}^{71}/{}_{100}$	calculate decimal fraction
Recognise and write decimal equivalents to \( \frac{1}{2}, \frac{3}{4} \)  \[ \begin{array}{cccccccccccccccccccccccccccccccccccc					thousandths and relate them to tenths, hundredths and decimal equivalents (cross reference -	equivalents e.g. 0.375 for a simple fraction e.g. $\frac{3}{8}$
write decimal equivalents to 1/4, 1/2, 3/4  relates to "number of parts per hundred", and write percentages as a fraction with  write decimal equivalents to 1/4, 1/2, 3/4  relates to "number of parts per hundred", and write percentages as a fraction with						
denominator 100 as a decimal fraction				write decimal equivalents to $^{1}/_{_{4,}}$	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	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 Recognise mixed	Add and subtract fractions with different denominators and mixed numbers, using the concept of
					numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = \frac{1}{5}$	equivalent fractions
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. <sup>3</sup> / <sub>8</sub> (cross reference – Equivalence)

	1	1	T	Γ
				Use written
				division methods
				in cases where
				the answer has up
				to two decimal
				places
<u>Pr</u>	oblem Solving			
Children use	Solve problems	Solve problems	Solve problems	Solve problems
fractions as	that involve all of	involving	involving numbers	which require
"fractions" of	the above	increasingly	up to three	answers to be
discrete and	objectives	harder fractions	decimal places	rounded to
continuous		to calculate		specified degrees
quantities by		quantities, and		of accuracy
solving problems		fractions to divide		(cross reference –
using shapes,		quantities,		Rounding
objects and		including non-unit		including
quantities. They		fractions where		Decimals)
connect unit		the answer is a		
fractions to equal		whole number		
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.				

(Non-statutory guidance)				
	i	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.	