

Weaver Primary School Progression in Mathematics:

Fractions, Decimals, Percentages

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6			
COUNTING IN FRACTIONAL STEPS								
	Pupils should count in fractions up to 10, starting from any number and using the 1/2 and 2/4 equivalence on the number line (Non Statutory Guidance)	count up and down in tenths	count up and down in hundredths					
			G 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 (appears also in Equivalence)				
recognise, find and name a		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						
quarter as one of four equal parts of an object, shape or quantity		as numbers: unit fractions and non-unit fractions with small denominators						
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			

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EQUIVALENCE INCLUDING FRACTIONS, DECIMALS AND PERCENTAGES							
	write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{1}{2}$ 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 tenths and hundredths	use common factors to simplify fractions; use common multiples to express fractions in the same denomination		
			recognise and write decimal equivalents of any number of tenths or hundredths	read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$) recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8)		
			recognise and write decimal equivalents to	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.		
		ADDITIO	N 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 numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = \frac{1}{5}$)	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions		
		MULTIPLI	CATION 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. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) multiply one-digit numbers with up to two decimal places by whole numbers		
					divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$) multiply one-digit numbers with up to		
					two decimal places by whole numbers		

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			MULTIPLICATION AND DI	VISION OF FRACTIONS (CONTI	NUED)		
			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		multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places		
					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. ³ / ₈) use written division methods in cases where the answer has		
					up to two decimal places		
			PRO	BLEM SOLVING			
		solve problems that involve all of the Y3 objectives above	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 simple measure and	solve problems involving numbers up to three decimal places			
			money problems involving fractions and decimals to two decimal places.	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.			
RATIO AND PROPORTION							
					solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts		
					solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison solve problems involving similar shapes where the scale		
					factor is known or can be found solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.		