

Progression in Fractions (Decimals and Percentages) - 2014 National Curriculum

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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.	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 and use fractions as numbers: unit fractions and non-unit fractions with small denominators.	recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators and that they can be written as both improper and mixed number fractions.	recognise mixed numbers and improper fractions and convert from one form to the other.	recognise mixed numbers and improper fractions and convert from one form to the other.
	write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of two quarters and one half.	recognise and show, using diagrams, equivalent fractions with small denominators.	recognise and show families of common equivalent fractions. identify, name and write equivalent fractions of a given fraction, including tenths and hundredths.	use common factors to simplify fractions using understanding of equivalent fractions.	use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
		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.	count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten.	start to understand fractions as their decimal fraction equivalent (e.g. 0.75) for a simple fraction ($\frac{3}{4}$).	associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)
		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 related fractions; write mathematical statements >1 as a mixed number (e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$)	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.

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				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. $\frac{1}{3} \div 2 = \frac{1}{6}$)
		compare and order unit fractions with the same denominator.	begin to compare and order fractions whose denominators are all multiples of the same number.	compare and order fractions whose denominators are all multiples of the same number.	compare and order fractions, including fractions >1 .
		solve problems that involve all of the 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 problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number or part of a number.	
			recognise and write decimal equivalents of any number of tenths or hundredths.	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	multiply one-digit numbers with up to two decimal places by whole numbers. use written division methods in cases where the answer has up to two decimal places.
		recognise and write decimal equivalent to $\frac{1}{2}$.	recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$.	read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$)	recall and use equivalences between simple fractions, decimals (and

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					percentage), including in different contexts.
			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 units, tenths and hundredths.	identify the value of each digit to two decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to two 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.
			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.	round decimals with two or three decimal places to the nearest number, one or two decimal places.
			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.	read, write, order and compare numbers with up to three decimal places.
			solve simple measure and money problems involving fractions and decimals to two decimal places.	solve problems involving number up to three decimal places.	solve problems which require answers to be rounded to specified degrees of accuracy.
				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 hundred, and as a decimal fraction.	recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
				solve problems which require knowing	solve problems involving the calculation of

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				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.	percentages of whole numbers or measures such as 15% of 360 and the use of percentages for comparison.
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Ratio and Proportion

					solve problems involving the relative sizes of two quantities, including similarity.
					solve problems involving unequal sharing and grouping.