

## Goose Green Number: Fractions, Decimals and Percentages Progression

Counting in fractional steps	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				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 (Non-Statutory Guidance)	Count up and down in tenths	Count up and down in hundredths		
Recognising fractions	Nursery	Reception	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, 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.	Recognise fractions in different real-world contexts
			Recognising equal sharing in different contexts- proportion and measure					

			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			
<b>Comparing fractions</b>	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					Compare and order unit fractions, and fractions with the same denominators.	Compare and order mixed fractions with the same denominators  Compare and order mixed numbers with different integers	Compare and order fractions whose denominators are all multiples of the same number	Compare and order fractions, including fractions >1
<b>Comparing decimals</b>	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						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

<b>Rounding including decimals</b>	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						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
<b>Equivalence including fractions, decimals and percentages</b>	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				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.  Recognise and write decimal equivalents of any number of tenths or hundredths.  Recognise and write decimal	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and 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	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination  Associate a fraction with division and calculate decimal fraction equivalents (e.g. $0.375$ ) for a simple fraction (e.g. $\frac{3}{8}$ )

						equivalents to 1/4; 1/2; 3/4	decimal equivalents 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.
<b>Addition and subtraction of fractions</b>	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					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 beyond the whole	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	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

							(e.g. $2/5 + 4/5 = 6/5 = 11/5$ )	
<b>Multiplication and division of fractions</b>	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
							<p>Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</p>	<p>Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. <math>1/4 \times 1/2 = 1/8</math>)</p> <p>Multiply one-digit numbers with up to two decimal places by whole numbers</p> <p>Divide proper fractions by whole numbers (e.g. <math>1/3 \div 2 = 1/6</math>)</p>

Multiplication and division of decimals	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						<p>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</p>		<p>Multiply one-digit numbers with up to two decimal places by whole numbers</p> <p>Multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places</p> <p>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</p> <p>Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction.</p>

								(e.g. 3/8)  Use written division methods in cases where the answer has up to two decimal places
<b>Problem solving</b>	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				Practice sharing equally between a given number of people/pots/hoops.  Recognise the number of groups	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 numbers up to three decimal places	
						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	