

# Phase 2 Progressive Maths Curriculum

Year Group	Number – Number and Place Value	Number – Addition and subtraction	Number – Multiplication and division	Number – fractions	Measurement	Geometry – Properties of shape	Geometry – Position and direction	Statistics
Year 3	<ul style="list-style-type: none"> <li><input type="checkbox"/> count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</li> <li><input type="checkbox"/> recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</li> <li><input type="checkbox"/> compare and order numbers up to 1000</li> <li><input type="checkbox"/> identify, represent and estimate numbers using different representations</li> <li><input type="checkbox"/> read and write numbers up to 1000 in numerals and in words</li> <li><input type="checkbox"/> solve number problems and practical problems involving these ideas.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> add and subtract numbers mentally, including:                             <ul style="list-style-type: none"> <li><input type="checkbox"/> a three-digit number and units</li> <li><input type="checkbox"/> a three-digit number and tens</li> <li><input type="checkbox"/> a three-digit number and hundreds</li> </ul> </li> <li><input type="checkbox"/> add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</li> <li><input type="checkbox"/> estimate the answer to a calculation and use inverse operations to check answers</li> <li><input type="checkbox"/> solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</li> <li><input type="checkbox"/> write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods</li> <li><input type="checkbox"/> solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which <math>n</math> objects are connected to <math>m</math> objects</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> 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</li> <li><input type="checkbox"/> recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</li> <li><input type="checkbox"/> recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</li> <li><input type="checkbox"/> recognise and show, using diagrams, equivalent fractions with small denominators</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</li> <li><input type="checkbox"/> measure the perimeter of simple 2-D shapes</li> <li><input type="checkbox"/> add and subtract amounts of money to give change, using both £ and p in practical contexts</li> <li><input type="checkbox"/> tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them</li> <li><input type="checkbox"/> recognise angles as a property of shape or a description of a turn</li> <li><input type="checkbox"/> identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle</li> </ul>	<p><b>This is not taught in Year 3</b></p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> interpret and present data using bar charts, pictograms and tables</li> <li><input type="checkbox"/> solve one-step and two-step questions [for example, ‘How many more?’ and ‘How many fewer?’] using information presented in scaled bar charts and pictograms and tables.</li> </ul>

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Year 3				<input type="checkbox"/> add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ ] <input type="checkbox"/> compare and order unit fractions, and fractions with the same denominators <input type="checkbox"/> solve problems that involve all of the above.	<input type="checkbox"/> estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight know the number of seconds in a minute and the number of days in each month, year and leap year  <input type="checkbox"/> compare durations of events [for example to calculate the time taken by particular events or tasks].	<input type="checkbox"/> identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	<b>This is not taught in Year 3</b>	
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Year 4	<ul style="list-style-type: none"> <li><input type="checkbox"/> count in multiples of 6, 7, 9, 25 and 1000</li> <li><input type="checkbox"/> find 1000 more or less than a given number</li> <li><input type="checkbox"/> count backwards through zero to include negative numbers</li> <li><input type="checkbox"/> recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)</li> <li><input type="checkbox"/> order and compare numbers beyond 1000</li> <li><input type="checkbox"/> identify, represent and estimate numbers using different representations</li> <li><input type="checkbox"/> round any number to the nearest 10, 100 or 1000</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</li> <li><input type="checkbox"/> estimate and use inverse operations to check answers to a calculation</li> <li><input type="checkbox"/> solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> recall multiplication and division facts for multiplication tables up to 12 x 12</li> <li><input type="checkbox"/> use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers</li> <li><input type="checkbox"/> recognise and use factor pairs and commutativity in mental calculations</li> <li><input type="checkbox"/> multiply two-digit and three-digit numbers by a one-digit number using formal written layout</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> recognise and show, using diagrams, families of common equivalent fractions</li> <li><input type="checkbox"/> count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</li> <li><input type="checkbox"/> 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</li> <li><input type="checkbox"/> add and subtract fractions with the same denominator</li> <li><input type="checkbox"/> recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{3}{4}</math></li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Convert between different units of measure [for example, kilometre to metre; hour to minute]</li> <li><input type="checkbox"/> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</li> <li><input type="checkbox"/> find the area of rectilinear shapes by counting squares</li> <li><input type="checkbox"/> estimate, compare and calculate different measures, including money in pounds and pence</li> <li><input type="checkbox"/> read, write and convert time between analogue and digital 12- and 24-hour clocks</li> <li><input type="checkbox"/> solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</li> <li><input type="checkbox"/> identify acute and obtuse angles and compare and order angles up to two right angles by size</li> <li><input type="checkbox"/> identify lines of symmetry in 2-D shapes presented in different orientations</li> <li><input type="checkbox"/> complete a simple symmetric figure with respect to a specific line of symmetry.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> describe positions on a 2-D grid as coordinates in the first quadrant</li> <li><input type="checkbox"/> describe movements between positions as translations of a given unit to the left/right and up/down</li> <li><input type="checkbox"/> plot specified points and draw sides to complete a given polygon.</li> <li><input type="checkbox"/> describe movements between positions as translations of a given unit to the left/right and up/down</li> <li><input type="checkbox"/> plot specified points and draw sides to complete a given polygon.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.</li> <li><input type="checkbox"/> solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</li> </ul>
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Year 4	<ul style="list-style-type: none"> <li><input type="checkbox"/> solve number and practical problems that involve all of the above and with increasingly large positive numbers</li> <li><input type="checkbox"/> read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value</li> </ul>		<ul style="list-style-type: none"> <li><input type="checkbox"/> solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> 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]</li> <li><input type="checkbox"/> round decimals with one decimal place to the nearest whole number</li> <li><input type="checkbox"/> compare numbers with the same number of decimal places up to two decimal places</li> <li><input type="checkbox"/> solve simple measure and money problems involving fractions and decimals to two decimal places.</li> </ul>				
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