

# Year 5 Maths Curriculum

Year 5 should be taught to:

Number Sense	Additive Reasoning	Multiplicative Reasoning	Geometric Reasoning
<ul style="list-style-type: none"> <li>• read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit <b>5.1, 5.5, 5.10</b></li> <li>• count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 <b>5.1, 5.5, 5.10</b></li> <li>• interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero <b>5.5, 5.10</b></li> <li>• round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 <b>5.1, 5.5, 5.10</b></li> <li>• solve number problems and practical problems that involve all of the above <b>5.1, 5.5, 5.10</b></li> <li>• multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 <b>5.1, 5.3, 5.5, 5.7, 5.8, 5.10, 5.12, 5.13</b></li> <li>• read and write decimal numbers as fractions [for example, <math>0.71 = \frac{71}{100}</math>] <b>5.1, 5.5, 5.7, 5.10, 5.12</b></li> <li>• recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents <b>5.1, 5.5, 5.7, 5.10, 5.12</b></li> <li>• round decimals with two decimal places to the nearest whole number and to one decimal place <b>5.1, 5.5, 5.10</b></li> <li>• read, write, order and compare numbers with up to three decimal places <b>5.1, 5.5, 5.10</b></li> <li>• solve problems involving number up to three decimal places <b>5.1, 5.5, 5.6, 5.10, 5.11</b></li> <li>• convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) <b>5.1, 5.5, 5.10, 5.12</b></li> <li>• solve problems involving converting between units of time <b>5.1, 5.5, 5.10, 5.11, 5.13</b></li> <li>• read Roman numerals to 1000 (M) and recognise years written in Roman numerals <b>5.5</b></li> <li>• compare and order fractions whose denominators are all multiples of the same number <b>5.7, 5.10, 5.12</b></li> <li>• recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt;1</math> as a mixed number [for example, <math>\frac{7}{5} + \frac{4}{5} = \frac{11}{5} = 2\frac{1}{5}</math>] <b>5.7, 5.10, 5.11, 5.12</b></li> <li>• 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, and as a decimal <b>5.7, 5.12</b></li> </ul>	<ul style="list-style-type: none"> <li>• solve problems involving number up to three decimal places <b>5.1, 5.5, 5.6, 5.10, 5.11</b></li> <li>• add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) <b>5.2, 5.6, 5.11</b></li> <li>• add and subtract numbers mentally with increasingly large numbers <b>5.2, 5.6, 5.11</b></li> <li>• use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy <b>5.2, 5.6, 5.11</b></li> <li>• solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why <b>5.2, 5.6, 5.11</b></li> <li>• use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation</li> <li>• including scaling <b>5.2, 5.3, 5.6, 5.8, 5.11, 5.13</b></li> <li>• solve comparison, sum and difference problems using information presented in a line graph <b>5.2, 5.6, 5.11</b></li> <li>• complete, read and interpret information in tables, including timetables <b>5.2, 5.6, 5.11</b></li> <li>• recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt;1</math> as a mixed number [for example, <math>\frac{7}{5} + \frac{4}{5} = \frac{11}{5} = 2\frac{1}{5}</math>] <b>5.7, 5.10, 5.11, 5.12</b></li> <li>• add and subtract fractions with the same denominator and denominators that are multiples of the same number <b>5.11</b></li> <li>• measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres <b>5.6, 5.14</b></li> </ul>	<ul style="list-style-type: none"> <li>• use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation including scaling <b>5.2, 5.3, 5.6, 5.8, 5.11, 5.13</b></li> <li>• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers <b>5.3, 5.8, 5.13</b></li> <li>• multiply numbers up to 4 digits by a one- or two-digit number using a formal written method including long multiplication for two-digit numbers <b>5.3, 5.8, 5.13</b></li> <li>• multiply and divide numbers mentally drawing upon known facts <b>5.3, 5.8, 5.13</b></li> <li>• divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context <b>5.3, 5.8, 5.13</b></li> <li>• multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 <b>5.1, 5.3, 5.5, 5.7, 5.8, 5.10, 5.12, 5.13</b></li> <li>• recognise and use square numbers and cube numbers, and the notation for squared (<math>^2</math>) and cubed (<math>^3</math>) <b>5.8, 5.13</b></li> <li>• solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes <b>5.3, 5.8, 5.13</b></li> <li>• solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign <b>5.3, 5.8, 5.13</b></li> <li>• know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers <b>5.8, 5.13</b></li> <li>• establish whether a number up to 100 is prime and recall prime numbers up to 19 <b>5.8, 5.13</b></li> <li>• solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates <b>5.8, 5.13</b></li> <li>• solve problems which require knowing percentage and decimal equivalents of <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{5}</math>, <math>\frac{2}{5}</math>, <math>\frac{3}{5}</math> and those with a denominator of a multiple of 10 or 25 <b>5.8, 5.13</b></li> <li>• identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths <b>5.7, 5.13</b></li> <li>• multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams <b>5.13</b></li> <li>• understand and use approximate equivalences between metric units and common imperial</li> </ul>	<ul style="list-style-type: none"> <li>• identify 3-D shapes, including cubes and other cuboids, from 2-D representations <b>5.4, 5.9</b></li> <li>• know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles <b>5.4, 5.9</b></li> <li>• draw given angles, and measure them in degrees (<math>^{\circ}</math>) <b>5.4, 5.9</b></li> <li>• identify:             <ul style="list-style-type: none"> <li>• angles at a point and one whole turn (total <math>360^{\circ}</math>) <b>5.4, 5.9</b></li> <li>• angles at a point on a straight line and <math>\frac{1}{2}</math> a turn (total <math>180^{\circ}</math>) <b>5.4, 5.9</b></li> <li>• other multiples of <math>90^{\circ}</math> <b>5.4, 5.9</b></li> </ul> </li> <li>• use the properties of rectangles to deduce related facts and find missing lengths and angles <b>5.4, 5.9, 5.14</b></li> <li>• distinguish between regular and irregular polygons based on reasoning about equal sides and angles <b>5.4, 5.9, 5.14</b></li> <li>• identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed <b>5.9, 5.14</b></li> <li>• measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres <b>5.6, 5.14</b></li> <li>• calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (<math>\text{cm}^2</math>) and square metres (<math>\text{m}^2</math>) and estimate the area of irregular shapes <b>5.14</b></li> <li>• estimate volume [for example, using <math>1 \text{ cm}^3</math> blocks to build cuboids (including cubes)] and capacity [for example, using water] <b>5.14</b></li> </ul>

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