



## Cheadle Primary School – Mathematics Long term Overview

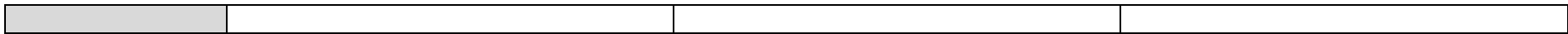
	<b>Year One</b>	<b>Year Two</b>	<b>Year Three</b>
Number – Number and Place value	<ul style="list-style-type: none"><li>• count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</li><li>• count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens</li><li>• given a number, identify one more and one less</li><li>• identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least</li><li>• read and write numbers from 1 to 20 in numerals and words.</li></ul>	<ul style="list-style-type: none"><li>• count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward</li><li>• recognise the place value of each digit in a two-digit number (tens, ones)</li><li>• identify, represent and estimate numbers using different representations, including the number line</li><li>• compare and order numbers from 0 up to 100; use <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs</li><li>• read and write numbers to at least 100 in numerals and in words</li><li>• use place value and number facts to solve problems.</li></ul>	<ul style="list-style-type: none"><li>• count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</li><li>• recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</li><li>• compare and order numbers up to 1000</li><li>• identify, represent and estimate numbers using different representations</li><li>• read and write numbers up to 1000 in numerals and in words</li><li>• solve number problems and practical problems involving these ideas.</li></ul>

<p>Addition and subtraction</p>	<ul style="list-style-type: none"> <li>• read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs</li> <li>• represent and use number bonds and related subtraction facts within 20</li> <li>• add and subtract one-digit and two-digit numbers to 20, including zero</li> <li>• solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = \square - 9</math>.</li> </ul>	<ul style="list-style-type: none"> <li>• solve problems with addition and subtraction:</li> <li>• using concrete objects and pictorial representations, including those involving numbers, quantities and measures</li> <li>• applying their increasing knowledge of mental and written methods</li> <li>• recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</li> <li>• add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> <li>• a two-digit number and ones</li> <li>• a two-digit number and tens</li> <li>• two two-digit numbers</li> <li>• adding three one-digit numbers</li> <li>• show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot</li> </ul> </li> <li>• recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</li> </ul>	<ul style="list-style-type: none"> <li>• add and subtract numbers mentally, including: <ul style="list-style-type: none"> <li>• a three-digit number and ones</li> <li>• a three-digit number and tens</li> <li>• a three-digit number and hundreds</li> </ul> </li> <li>• add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</li> <li>• estimate the answer to a calculation and use inverse operations to check answers</li> <li>• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</li> </ul>
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<p>Multiplication and division</p>	<ul style="list-style-type: none"> <li>• solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.</li> </ul>	<ul style="list-style-type: none"> <li>• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers</li> <li>• calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (<math>\times</math>), division (<math>\div</math>) and equals (=) signs</li> <li>• show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</li> <li>• solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</li> </ul>	<ul style="list-style-type: none"> <li>• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</li> <li>• 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>• 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>
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<p>Fractions</p>	<ul style="list-style-type: none"> <li>• recognise, find and name a half as one of two equal parts of an object, shape or quantity</li> <li>• recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</li> </ul>	<ul style="list-style-type: none"> <li>• recognise, find, name and write fractions <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity</li> <li>• write simple fractions for example, <math>\frac{2}{6} = \frac{1}{3}</math> and recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math>.</li> </ul>	<ul style="list-style-type: none"> <li>• 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>• recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</li> <li>• recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</li> <li>• recognise and show, using diagrams, equivalent fractions with small denominators</li> <li>• add and subtract fractions with the same denominator within one whole [for example, <math>\frac{7}{5} + \frac{1}{6}</math>]</li> <li>• compare and order unit fractions, and fractions with the same denominators</li> <li>• solve problems that involve all of the above.</li> </ul>
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<p>Measurement</p>	<ul style="list-style-type: none"> <li>• compare, describe and solve practical problems for:</li> <li>• lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]</li> <li>• mass/weight [for example, heavy/light, heavier than, lighter than]</li> <li>• capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]</li> <li>• time [for example, quicker, slower, earlier, later]</li> <li>• measure and begin to record the following: <ul style="list-style-type: none"> <li>• lengths and heights</li> <li>• mass/weight</li> <li>• capacity and volume</li> <li>• time (hours, minutes, seconds)</li> </ul> </li> <li>• recognise and know the value of different denominations of coins and notes</li> <li>• sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]</li> <li>• recognise and use language relating to dates, including days of the week, weeks, months and years</li> <li>• tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.</li> </ul>	<ul style="list-style-type: none"> <li>• choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels</li> <li>• compare and order lengths, mass, volume/capacity and record the results using &gt;, &lt; and =</li> <li>• recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</li> <li>• find different combinations of coins that equal the same amounts of money</li> <li>• solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</li> <li>• compare and sequence intervals of time</li> <li>• tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times</li> <li>• know the number of minutes in an hour and the number of hours in a day.</li> </ul>	<ul style="list-style-type: none"> <li>• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</li> <li>• measure the perimeter of simple 2-D shapes</li> <li>• add and subtract amounts of money to give change, using both £ and p in practical contexts</li> <li>• 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> <li>• 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</li> <li>• know the number of seconds in a minute and the number of days in each month, year and leap year</li> <li>• compare durations of events [for example to calculate the time taken by particular events or tasks].</li> </ul>
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<p>Geometry</p>	<p><b><u>Properties of shapes</u></b></p> <ul style="list-style-type: none"> <li>• recognise and name common 2-D and 3-D shapes, including:</li> <li>• 2-D shapes [for example, rectangles (including squares), circles and triangles]</li> <li>• 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].</li> </ul> <p><b><u>Position and direction</u></b></p> <ul style="list-style-type: none"> <li>• describe position, direction and movement, including whole, half, quarter and three-quarter turns.</li> </ul>	<p><b><u>Properties of shapes</u></b></p> <ul style="list-style-type: none"> <li>• identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line</li> <li>• identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</li> <li>• identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]</li> <li>• compare and sort common 2-D and 3-D shapes and everyday objects.</li> </ul> <p><b><u>Position and direction</u></b></p> <ul style="list-style-type: none"> <li>• order and arrange combinations of mathematical objects in patterns and sequences</li> <li>• use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).</li> </ul>	<p><b><u>Properties of shapes</u></b></p> <ul style="list-style-type: none"> <li>• draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them</li> <li>• recognise angles as a property of shape or a description of a turn</li> <li>• 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> <li>• identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</li> </ul>
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Statistics		<ul style="list-style-type: none"><li>• interpret and construct simple pictograms, tally charts, block diagrams and simple tables</li><li>• ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity</li><li>• ask and answer questions about totalling and comparing categorical data.</li></ul>	<ul style="list-style-type: none"><li>• interpret and present data using bar charts, pictograms and tables</li><li>• 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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