

## Mathematics end of year expectations

Nursery	Reception	Year 1	Year 2
<p><u>30-50 months</u> <u>Number</u></p> <ul style="list-style-type: none"> <li>Uses some number names and number language spontaneously</li> <li>Uses some number names accurately in play</li> <li>Recites numbers in order up to 10</li> <li>Knows that numbers identify how many objects are in a set</li> <li>Begins to represent numbers using fingers, marks on paper or picture</li> <li>Sometimes matches numeral and quantity correctly</li> <li>Shows curiosity about numbers by offering comments or asking questions</li> <li>Compares two groups of objects, saying when they have the same number</li> <li>Shows an interest in number problems</li> <li>Separates a group of three or four objects in different ways beginning to recognise that the total is the same</li> <li>Shows an interest in the numerals that are in the environment</li> <li>Shows an interest in representing numerals</li> <li>Realises that not only objects can be counted but anything can be counted such as claps, jumps or steps</li> </ul>	<p><u>40-60+</u> <u>Number</u></p> <ul style="list-style-type: none"> <li>Recognises some numerals of personal significance</li> <li>Recognises numerals 1-5</li> <li>Counts up to 3/4 objects by saying one number name for each item</li> <li>Counts actions or objects that cannot be moved</li> <li>Counts objects to 10 and beginning to count beyond ten</li> <li>Counts out up to six objects from a larger group</li> <li>Selects the correct numeral for 1-5, then 1-10 objects</li> <li>Counts irregular arrangement of up to ten objects</li> <li>Estimate show many objects they can see and then checks by counting them</li> <li>Uses language of 'more' and 'fewer' to compare two sets of objects</li> <li>Finds the total of two groups of items by counting all of them</li> <li>Says the number that is one more than a given number</li> <li>Finds one more or one less from a group of up to five objects then ten objects</li> <li>In practical activities and discussion, they are beginning to use addition and subtraction language</li> <li>Can record using marks that they can interpret or explain</li> <li>Begins to recognise own mathematical problems based on own interests and fascinations</li> </ul>	<p><b>Number and place value</b></p> <ul style="list-style-type: none"> <li>Can count to and across 100, forward and backwards beginning with 0 or 1 from any number</li> <li>Can count in multiples of 2, 5 and 10</li> <li>Can count, read and write numbers to 100 in numerals</li> <li>Can say what is one more or one less than any number</li> <li>Can read and write numbers from 1 to 20 in numerals and words</li> <li>Can 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 and least</li> </ul> <p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>Can represent and use number bonds and related subtraction facts to 20</li> <li>Can add and subtract 1-digit and 2-digit numbers to 20 including zero</li> <li>Can read, write and interpret mathematical statements involving additions, subtraction and equals signs</li> <li>Can solve one-step problems that involve addition and subtraction, using objects and pictorial representations</li> <li>Can solve missing number problems</li> <li>Can solve one-step problems involving multiplication and division, by using concrete objects, pictorial representations and arrays</li> </ul> <p><b>Fractions</b></p> <ul style="list-style-type: none"> <li>Can recognise, find and name a half of an object, shape or quantity</li> <li>Can recognise, find and name a quarter of an object shape or quantity</li> </ul>	<p><b>Number and place value</b></p> <ul style="list-style-type: none"> <li>Can count in steps of 2, 3 and 5 from 0, and in tens from any number, forwards and backwards</li> <li>Can read and write numbers to at least 100 in numerals and in words</li> <li>Can compare and order numbers from up to 100 using <math>\lt</math>, <math>\gt</math>, <math>=</math> signs</li> <li>Recognise the place value of each digit in a 2-digit number</li> <li>Can identify, represent and estimate numbers using different representations, including the number line</li> <li>Can use place value and number facts to solve problems</li> </ul> <p><b>Calculations</b></p> <ul style="list-style-type: none"> <li>Can recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</li> <li>Can add and subtract mentally including: A 2 digit number and ones, A 2 digit number and tens, Two 2 digit numbers, Adding three 1 digit numbers</li> <li>Can add and subtract numbers using concrete objects and pictorial: a 2-digit number and ones, a 2 digit number and tens, two 2 digit numbers and adding three 1 digit numbers</li> <li>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems</li> <li>Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures</li> <li>Solve problems with addition and subtraction, applying their increasing knowledge of mental and written methods</li> <li>Can recall and use multiplication and division facts for the 2,5, and 10x tables, including recognising odd and even numbers</li> <li>Can calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication, division and equals sign</li> <li>Can solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and divisions facts, including problems in context</li> <li>Can show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot</li> <li>Can show multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</li> </ul> <p><b>Fractions</b></p> <ul style="list-style-type: none"> <li>Recognise, find, name and write fractions <math>\frac{1}{3}</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>Can write simple fractions</li> <li>Recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math></li> </ul>
<p><u>Shape, space and measure</u></p> <ul style="list-style-type: none"> <li>Shows an interest in shape and space by playing with shapes or making arrangements with objects</li> </ul>	<p><u>Shape, space and measure</u></p> <ul style="list-style-type: none"> <li>Begin to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes and mathematical terms to describe them</li> </ul>	<p><b>Measurement</b></p> <ul style="list-style-type: none"> <li>Can compare, describe and solve practical problems for lengths and heights; mass/weight; capacity and volume and time</li> <li>Can measure and begin to record lengths and</li> </ul>	<p><b>Measurement</b></p> <ul style="list-style-type: none"> <li>Can compare and order lengths, mass, volume/capacity and record the results using <math>\gt</math>, <math>\lt</math> and <math>=</math></li> <li>Can choose and use standard units to estimate and measure length/height in any direction in m and cm using rulers</li> </ul>

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<ul style="list-style-type: none"> <li>Shows awareness of similarities of shapes in the environment</li> <li>Uses positional language</li> <li>Shows an interest in shapes in the environment</li> <li>Uses shapes appropriately for tasks</li> <li>Beginning to talk about the shapes of everyday objects e.g. 'round' and 'tall'</li> </ul>	<ul style="list-style-type: none"> <li>Selects a particular named shape</li> <li>Can describe their relative position such as 'behind' or 'next to'</li> <li>Orders two or three items by length or height</li> <li>Orders two items by weight or capacity</li> <li>Uses familiar objects and common shapes to create and recreate patterns and build models</li> <li>Uses everyday language related to time</li> <li>Beginning to use everyday language related to money</li> <li>Orders and sequences familiar events</li> <li>Measures short periods of time in simple ways</li> </ul>	<p>heights; mass/weight; capacity and volume and time</p> <ul style="list-style-type: none"> <li>Can recognise and know the value of different denominations of coins and notes</li> <li>Can tell the time to the hour and half past the hour</li> <li>Can draw hands on a clock to show these times</li> <li>Can sequence events in chronological order using language</li> <li>Can recognise and use language relating to dates, including days, weeks, months and years</li> </ul> <p><b>Geometry – properties of shapes</b></p> <ul style="list-style-type: none"> <li>Recognise and name common 2D shapes</li> <li>Recognise and name common 3D shapes</li> </ul> <p><b>Geometry – position and direction</b></p> <ul style="list-style-type: none"> <li>Can describe position, directions and movement, including half, quarter and three quarter turns</li> </ul>	<ul style="list-style-type: none"> <li>Can use and use standard units to estimate and measure mass in kg and g using scales</li> <li>Can choose and use standard units to estimate and measure temperature in Celsius using thermometers</li> <li>Can choose and use standard units to estimate capacity in l and ml using measuring vessels</li> <li>Recognise and use symbols for £ and p and combine amounts to make a particular value</li> <li>Can find different combinations of coins that equal the same amount of money</li> <li>Can tell and write the time to five minutes including quarter to /past and draw the hands on a clock face to show these times</li> <li>can compare and sequence intervals of time</li> <li>Know the number of minutes in an hour</li> <li>Know the number of hours in a day</li> <li>Can solve simple problems in a practical context involving addition and subtraction of money of the same units, including giving change</li> </ul> <p><b>Geometry – properties of shape</b></p> <ul style="list-style-type: none"> <li>Can compare and sort common 2D shapes and everyday objects</li> <li>Can compare and sort common 3D shapes and everyday objects</li> <li>Identify and describe the properties of 2D shapes, including the number of sides and line of symmetry in a vertical line</li> <li>Identify and describe the properties of 3D shapes including the number of edges, vertices and faces</li> <li>Can identify 2D shapes on the surface of 3D shapes</li> </ul> <p><b>Geometry – position and direction</b></p> <ul style="list-style-type: none"> <li>Can order and arrange combinations of mathematical objects in patterns and sequences</li> <li>Can 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>Statistics</b></p> <ul style="list-style-type: none"> <li>Can interpret and construct simple pictograms</li> <li>Can interpret and construct tally charts</li> <li>Can interpret and construct block diagrams</li> <li>Can interpret and construct simple tables</li> <li>Can ask and answer questions by counting the number of objects in each category and sorting the categories by quantity</li> <li>Can ask and answer simple questions about totalling and comparing categorical data</li> </ul>
	<p><u>Early learning goals</u></p> <p><u>Number</u></p> <ul style="list-style-type: none"> <li>Can count reliably with numbers from one to twenty</li> <li>Place them in order and say which number is one more or one less than a given number</li> <li>Using quantities and objects, they add and subtract two single digit numbers and count on or back to find the answer</li> <li>They solve problems; including doubling, halving and sharing</li> </ul>		
	<p><u>Shape, space and measure</u></p> <ul style="list-style-type: none"> <li>Uses everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems</li> <li>Recognise, create and describe pattern</li> <li>Explore characteristics of everyday objects and shapes and use mathematical language to describe them</li> </ul>		