

## Maths Progression Plan

**Intent:** Our intent is to maintain and further raise standards in mathematics through enabling our children to become confident, competent and fluent mathematicians. We believe that it is important for children to develop an appreciation of the relevance and purpose of maths in everyday life. They need to become aware of the relationships and connections between mathematical ideas.

### Number: Number and Place Value

Theme within subject	Year R	Year 1	Year 2
Counting	<ul style="list-style-type: none"> <li>count objects, actions and sounds matching one number name to each item</li> <li>subitise to 5</li> <li>count beyond 20 verbally</li> </ul>	<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>begin to recognise odd and even numbers</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 or backward</li> <li>recognise odd and even numbers</li> </ul>
Comparing numbers	<ul style="list-style-type: none"> <li>compare quantities up to 10 using the language of greater than/less than, more than,/fewer, the same, equal to</li> <li>understand the one more/one less relationship between consecutive numbers</li> </ul>	<ul style="list-style-type: none"> <li>use the language of: equal to, more than, less than (fewer), most, least</li> </ul>	<ul style="list-style-type: none"> <li>compare and order numbers from 0 up to 100; use <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs</li> </ul>
Identifying, representing and estimating number (including reading and writing numbers)	<ul style="list-style-type: none"> <li>Link the number symbol with its cardinal value to 10.</li> <li>Write recognisable numbers to 10.</li> </ul>	<ul style="list-style-type: none"> <li>identify and represent numbers using objects and pictorial representations including the number line</li> <li>read and write numbers from 1 to 20 in numerals and words.</li> </ul>	<ul style="list-style-type: none"> <li>identify, represent and estimate numbers using different representations, including the number line</li> <li>read and write numbers to at least 100 in numerals and in words</li> </ul>
Understanding place value			<ul style="list-style-type: none"> <li>recognise the place value of each digit in a two-digit number (tens, ones)</li> </ul>
Problem solving	<ul style="list-style-type: none"> <li>Recognise the pattern of the counting system counting verbally</li> </ul>	<ul style="list-style-type: none"> <li>Solve problems related to place value and number</li> </ul>	<ul style="list-style-type: none"> <li>use place value and number facts to solve problems</li> </ul>

Vocabulary	number names to 20 and beyond, subitising, more, less, fewer, equal to, same as	number names to 100, forwards, backwards, more, less, most, least, fewest, digit	number names to 100 and beyond, partition, recombine, part-whole, greater than, less than, equals,
<b>Number: Addition and Subtraction</b>			
Theme within subject	Year R	Year 1	Year 2
Number Bonds	<ul style="list-style-type: none"> <li>• identify smaller numbers within a number (subitising)</li> <li>• automatically recall number bonds (addition and subtraction) to 5</li> <li>• automatically recall some number bonds to 10</li> </ul>	<ul style="list-style-type: none"> <li>• represent and use number bonds and related subtraction facts within 20</li> </ul>	<ul style="list-style-type: none"> <li>• recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</li> </ul>
Mental calculation	<ul style="list-style-type: none"> <li>• understand different ways of making numbers to 10</li> <li>• use visual representations to 10 (tens frames)</li> <li>• add and take away two 1 digit numbers</li> </ul>	<ul style="list-style-type: none"> <li>• add and subtract one-digit and two-digit numbers to 20, including zero</li> <li>• read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (also appears in Written methods)</li> </ul>	<ul style="list-style-type: none"> <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> </ul>
Written methods	<ul style="list-style-type: none"> <li>• begin to read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</li> </ul>	<ul style="list-style-type: none"> <li>• read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</li> <li>• (appears also in Mental Calculation)</li> </ul>	
Inverse operations, estimating and checking answers		<ul style="list-style-type: none"> <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>• estimate the answer to a calculation and use inverse operations to check answers</li> </ul>

Problem solving	<ul style="list-style-type: none"> <li>• solve real world mathematical problems with numbers up to ten</li> </ul>	<ul style="list-style-type: none"> <li>• solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as</li> <li>• <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>• (solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change - copied from Measurement)</li> </ul>
Vocabulary	Subitise, bond, add, more, plus, altogether, equals, subtract, take away, less, count on/back	number line, part-whole, difference, sum, total minus,	inverse, exchange, estimate

### Number: Multiplication and Division

Theme within subject	Year R	Year 1	Year 2
Multiplication and division facts	<ul style="list-style-type: none"> <li>• double numbers and quantities of objects up to 5</li> <li>• recognise odd and even numbers to 10</li> <li>• share even numbers to 10, recognising that numbers can be split equally</li> </ul>	<ul style="list-style-type: none"> <li>• count in multiples of twos, fives and tens</li> <li>• double numbers and quantities of objects to 20</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 or backward</li> <li>• (copied from Number and Place Value)</li> <li>• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers</li> </ul>
Mental calculations			<ul style="list-style-type: none"> <li>• show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot</li> </ul>
Written calculations			<ul style="list-style-type: none"> <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> </ul>

Problem solving	<ul style="list-style-type: none"> <li>• explore and represent patterns within numbers up to 10, including double facts and how to quantities can be shared equally.</li> </ul>	<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 support of the teacher</li> </ul>	<ul style="list-style-type: none"> <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>
Vocabulary	double, share, half, equal, groups, odd, even	multiply, groups/lots of, array, row, column, divide	multiplication, division, repeated addition,

**Number: Fractions**

Theme within subject	Year R	Year 1	Year 2
Counting in fractions			<ul style="list-style-type: none"> <li>• Pupils should count in fractions up to 10, starting from any number and using the <math>\frac{1}{2}</math> and <math>\frac{2}{4}</math> equivalence on the number line (Non Statutory Guidance)</li> </ul>
Recognising fractions	<ul style="list-style-type: none"> <li>• recognise a group of objects can be shared equally between two groups of people</li> </ul>	<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}{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> </ul>
Equivalence			<ul style="list-style-type: none"> <li>• recognise the equivalence of 2 quarters and half</li> </ul>
Vocabulary	share equally, half	half, halve, quarters, equal parts, whole	third, equivalence, equivalent

**Measurement**

Theme within subject	Year R	Year 1	Year 2
comparing and estimating	<ul style="list-style-type: none"> <li>• compare length/height, using comparative language, such as 'longer/shorter/taller than, longest shortest, tallest'</li> <li>• use comparative language to group objects</li> </ul>	<ul style="list-style-type: none"> <li>• compare, describe and solve practical problems for: <ul style="list-style-type: none"> <li>• lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half]</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• compare and order lengths, mass, volume/capacity and record the results using <math>&gt;</math>, <math>&lt;</math> and <math>=</math></li> <li>• compare and sequence intervals of time</li> </ul>

	<ul style="list-style-type: none"> <li>• compare capacity, using comparative language, such as 'full, empty, half full nearly full, nearly empty'</li> <li>• compare weight, using comparative language, such as 'heavy, heavier, lighter, light, heaviest , lightest,</li> </ul>	<ul style="list-style-type: none"> <li>• mass/weight [e.g. heavy/light, heavier than, lighter than]</li> <li>• capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter]</li> <li>• time [e.g. quicker, slower, earlier, later]</li> <li>• sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]</li> </ul>	
Measuring		<ul style="list-style-type: none"> <li>• measure and begin to record the following:</li> <li>• <b>lengths and heights</b></li> <li>• <b>mass/weight</b></li> <li>• <b>capacity and volume</b></li> <li>• <b>time</b> (hours, minutes, seconds)</li> </ul>	<ul style="list-style-type: none"> <li>• choose and use appropriate standard units to estimate and measure <b>length/height</b> in any direction (m/cm); <b>mass</b> (kg/g); <b>temperature</b> (°C); <b>capacity</b> (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels</li> </ul>
Money	<ul style="list-style-type: none"> <li>• begin to use everyday language related to money in role play</li> </ul>	<ul style="list-style-type: none"> <li>• recognise and know the value of different denominations of <b>coins and notes</b></li> </ul>	<ul style="list-style-type: none"> <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> </ul>
Telling the time	<ul style="list-style-type: none"> <li>• use everyday language related to time</li> </ul>	<ul style="list-style-type: none"> <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>• tell and write the time to five minutes, including quarter past/to</li> </ul>

	<ul style="list-style-type: none"> <li>• order and sequence two or three familiar events</li> <li>• measure short periods of time in simple ways</li> </ul>	<ul style="list-style-type: none"> <li>• recognise and use language relating to dates, including days of the week, weeks, months and years</li> </ul>	<p>the hour and draw the hands on a clock face to show these times.</p> <ul style="list-style-type: none"> <li>• know the number of minutes in an hour and the number of hours in a day.</li> </ul>
Vocabulary	days of the week, , before, after, next, last, now, next early, money, coin, penny, pence, pound, measure, longer, shorter, heavy, heavier, lighter, light, heaviest , lightest, full, empty, half full nearly full, nearly empty	months of year, length, height, weight, mass, long/short, longer/shorter, tall/short, quicker, slower, earlier, later, full/empty, more than, less than, half, half full, quarter, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening, hours, minutes, seconds, clock, minute hand, hour hand, o'clock, half past, pounds, pence,	change, quarter past/to, centimetres, metres, kilometres, grams, kilograms, millimeters, litres, temperature, degrees

### Geometry: Properties of Shape

Theme within subject	Year R	Year 1	Year 2
Identifying shapes and their properties	<ul style="list-style-type: none"> <li>• talk about and explore 2D and 3D shapes using informal mathematical language</li> <li>• select, rotate and manipulate shapes in order to develop spatial reasoning skills</li> <li>• compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can</li> </ul>	<ul style="list-style-type: none"> <li>• recognise and name common 2-D and 3-D shapes, including:</li> <li>• 2-D shapes [e.g. rectangles (including squares), circles, pentagon, hexagon and triangles]</li> <li>• 3-D shapes [e.g. cuboids (including cubes), pyramids, cylinder and spheres].</li> </ul>	<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> </ul>
Comparing and classifying			<ul style="list-style-type: none"> <li>• compare and sort common 2-D and 3-D shapes and everyday objects</li> </ul>
Vocabulary	cube, cuboid, pyramid, cone, sphere, circle, square, rectangle, circle, triangle, flat, curved, straight, sides, long/short	hexagon, pentagon, cylinder, vertex, vertices, edge, side, face, roll	symmetry, vertical line, properties

### Geometry: Position and Direction

Theme within subject	Year R	Year 1	Year 2
Position, direction and movement		<ul style="list-style-type: none"> <li>describe position, direction and movement, including half, quarter and three-quarter turns.</li> </ul>	<ul style="list-style-type: none"> <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>
Pattern	<ul style="list-style-type: none"> <li>continue, copy and create repeating patterns</li> </ul>		<ul style="list-style-type: none"> <li>order and arrange combinations of mathematical objects in patterns and sequences</li> </ul>
Vocabulary	repeat, repeating, in front, behind, next, the same	position, turn, half, quarter, three quarter, whole turn	rotate, rotation, clockwise, anticlockwise, right, left, right angle

### Statistics

Theme within subject	Year R	Year 1	Year 2
Interpreting, constructions and presenting data			<ul style="list-style-type: none"> <li>interpret and construct simple pictograms, tally charts, block diagrams and simple tables</li> </ul>
Solving problems			<ul style="list-style-type: none"> <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>
Vocabulary			vote, block graph, pictogram, represent, axis, most popular, most common, least popular, least common, difference between