

# 2014 National Curriculum

## Mathematics – Domain Progression Across Key Stages 1 & 2 **Key Objectives**

1. Number: Number and Place Value
2. Number: Addition and Subtraction
3. Number: Multiplication and Division
4. Number: Fractions
5. Number: Ratio & Proportion
6. Measurement
7. Geometry: Properties of Shape
8. Geometry: Position and Direction
9. Statistics
10. Algebra

Key to Colours: Green Highlighting: Earlier (or new) Expectations

Yellow Highlighting: Later Expectations

**Red Text: Suggested Objectives deemed missing in 2014 Curriculum**

	1	2	3	4	5	6
<b>Counting</b>						
<b>Place Value</b>	<ul style="list-style-type: none"> <li>compare and order numbers from 1 to 20</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> </ul>	<ul style="list-style-type: none"> <li>compare and order numbers from 0 up to 100 including partitioning in different ways</li> <li>identify, represent and estimate numbers using different representations, including the number line</li> </ul>	<ul style="list-style-type: none"> <li>compare and order numbers up to 1000 including partitioning in different ways use &lt;, &gt; and = signs</li> <li>identify, represent and estimate numbers using different representations</li> </ul>	<ul style="list-style-type: none"> <li>order and compare numbers beyond 1000 including partitioning in different ways</li> <li>identify, represent and estimate numbers using different representations</li> </ul>	<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 including partitioning in different ways</li> <li>interpret negative numbers in context</li> </ul>	<ul style="list-style-type: none"> <li>read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</li> <li>use negative numbers in context, and calculate intervals across zero</li> </ul>
<b>Addition &amp; Subtraction</b>		<ul style="list-style-type: none"> <li>add and subtract two two-digit numbers <b>using concrete objects, pictorial representations and jottings</b>,</li> </ul>	<ul style="list-style-type: none"> <li>add and subtract numbers with up to three digits, using <b>formal written methods including expanded method</b> of columnar addition and subtraction</li> </ul>	<ul style="list-style-type: none"> <li>add and subtract numbers <b>with up to 4 digits using the formal written methods</b> of columnar addition and subtraction</li> </ul>	<ul style="list-style-type: none"> <li>add and subtract whole numbers with more than 4 digits, <b>(and decimals with up to 3 dp)</b> including using formal written methods (columnar addition and subtraction)</li> </ul>	<ul style="list-style-type: none"> <li><b>add and subtract any set of whole numbers and decimals using an appropriate written method</b></li> </ul>
<b>Multiplication &amp; Division</b>		<ul style="list-style-type: none"> <li><b>Introduce the concept of remainders</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Understand remainders in the context of division</b></li> <li>Multiply two-digit numbers by one-digit numbers, <b>using mental and progressing to formal written methods</b></li> <li>Use division statements for known facts and begin short division of 2 digit by single digit numbers</li> </ul>	<ul style="list-style-type: none"> <li><b>Interpret remainders, rounding up or down depending on context</b></li> <li><b>Estimate and multiply two-digit and three-digit numbers</b> by a one-digit number using a formal written layout <b>including grid method</b></li> <li><b>Short division of TU+U and HTU+U</b></li> </ul>	<ul style="list-style-type: none"> <li>identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</li> <li>multiply numbers <b>up to 4 digits</b> by a one- or two-digit number using a formal written method, <b>(including grid)</b> including long multiplication for two-digit numbers</li> <li>divide numbers <b>up to 4 digits</b> by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context E.g. <b>Express remainders in different ways e.g. 98÷4= 24r2=24½=24.5~25</b></li> </ul>	<ul style="list-style-type: none"> <li>identify common factors, common multiples and prime numbers</li> <li>multiply multi-digit numbers <b>up to 4 digits</b> by a two-digit whole number using the formal written method of long multiplication</li> <li>divide numbers <b>up to 4 digits by a two-digit whole number using the formal written methods of long or short division</b>, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</li> </ul>
<b>Fractions, Decimals &amp; Percentages</b>	<ul style="list-style-type: none"> <li>recognise, find and name a halves and quarters as two or 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>	<ul style="list-style-type: none"> <li>compare and order unit fractions, and fractions with the same denominators</li> <li>count in tenths; recognise, visualise and write in tenths; understand tenths as 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 or quantities</li> </ul>	<ul style="list-style-type: none"> <li>Find families of common equivalent fractions</li> <li>Count in tenths and hundredths; recognise, visualise and write decimal equivalents of any number of tenths or hundredths.</li> <li>add and subtract fractions with the same denominator <b>beyond one whole, and convert to a mixed number</b></li> </ul>	<ul style="list-style-type: none"> <li>recognise mixed numbers and improper fractions and convert from one form to the other</li> <li>read and write decimal numbers as fractions in tenths, hundredths and thousandths</li> <li>add and subtract fractions with the same denominator and denominators that are multiples of the same number</li> </ul>	<ul style="list-style-type: none"> <li>use common factors to simplify fractions and common multiples to express in the same denominator</li> <li>recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</li> <li>add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</li> </ul>
<b>Measures (Length / Mass / Capacity)</b>		<ul style="list-style-type: none"> <li>compare and order lengths, mass, volume/capacity</li> <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,</li> </ul>	<ul style="list-style-type: none"> <li>compare <b>and find simple equivalents e.g. 5m = 500cm</b>, 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> </ul>	<ul style="list-style-type: none"> <li>Convert between different units of measure [for example, kilometre to metre; hour to minute]</li> <li>measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</li> </ul>	<ul style="list-style-type: none"> <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)</li> <li>measure and calculate the perimeter of composite rectilinear shapes</li> <li>calculate and compare the area of rectangles (including squares)</li> </ul>	<ul style="list-style-type: none"> <li>use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa</li> <li>recognise that shapes with the same areas can have different perimeters and vice versa</li> <li>calculate the area of parallelograms and triangles</li> </ul>

<b>Money</b>	<ul style="list-style-type: none"> <li>recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</li> </ul>	<ul style="list-style-type: none"> <li>add and subtract amounts of money to give change, using both £ and p in practical contexts</li> </ul>	<ul style="list-style-type: none"> <li>estimate, compare and calculate different measures, including money</li> </ul>	
<b>Time</b>	<ul style="list-style-type: none"> <li>tell and write the time to five minutes, including quarter past/to the hour</li> </ul>	<ul style="list-style-type: none"> <li>estimate and read time with increasing accuracy to the nearest minute;</li> </ul>	<ul style="list-style-type: none"> <li>read, write and convert time between analogue and digital 12- and 24-hour clocks</li> <li>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>solve problems involving converting between units of time</li> <li>solve problems involving converting between units of time, in 24 hour clock</li> <li>Solve problems using timetables in 12 and 24 hour clock</li> </ul>
<b>Geometry: Shape Properties</b>	<ul style="list-style-type: none"> <li>recognise and name common 2-D and 3-D shapes, including: <ul style="list-style-type: none"> <li>for example, rectangles (including squares), circles and triangles]</li> </ul> </li> <li>3-D shapes [for example, cuboids (including cubes), pyramids 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> </ul>	<ul style="list-style-type: none"> <li>compare and classify geometric shapes, based on their properties and sizes</li> </ul>	<ul style="list-style-type: none"> <li>compare and classify geometric shapes, including quadrilaterals – and triangles, based on their properties and sizes</li> <li>identify 3-D shapes, including cubes and other cuboids, from 2-D representations</li> <li>compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons</li> </ul>
<b>Geometry: Angles</b>		<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>identify acute and obtuse angles and compare and order angles up to two right angles by size</li> </ul>	<ul style="list-style-type: none"> <li>identify: <ul style="list-style-type: none"> <li>angles at a point and one whole turn (total 360°)</li> <li>angles at a point on a straight line and <math>\frac{1}{2}</math> a turn</li> </ul> </li> <li>identify vertically opposite angles</li> </ul>
<b>Geometry: Position</b>			<ul style="list-style-type: none"> <li>describe positions on a 2-D grid as coordinates in the first quadrant</li> </ul>	<ul style="list-style-type: none"> <li>Pupils recognise and use reflection and translation in a variety of diagrams, including continuing to use a 2-D grid and coordinates in the first quadrant.</li> <li>describe positions on the full coordinate grid (all four quadrants)</li> </ul>
<b>Statistics</b>	<ul style="list-style-type: none"> <li>interpret and construct simple pictograms, tally charts, block diagrams and simple tables</li> </ul>	<ul style="list-style-type: none"> <li>interpret and present data using bar charts, pictograms and tables</li> </ul>	<ul style="list-style-type: none"> <li>interpret and present data including bar charts time graphs, pictograms, tables and other graphs.</li> </ul>	<ul style="list-style-type: none"> <li>complete, read and interpret information in tables, including timetable, and information presented in a line graph</li> <li>interpret and construct pie charts and line graphs and use these to solve problems</li> </ul>
<b>Algebra</b>				<ul style="list-style-type: none"> <li>use simple formulae</li> </ul>