

Autumn

Weeks	Y5	Y6
1-3	<b>Number - number and place value</b> Pupils should be taught to: <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</li> <li>• count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000</li> <li>• interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0</li> <li>• round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000</li> <li>• solve number problems and practical problems that involve all of the above</li> <li>• read Roman numerals to 1,000 (M) and recognise years written in Roman numerals</li> </ul>	<b>Number - number and place value</b> Pupils should be taught to: <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>• round any whole number to a required degree of accuracy</li> <li>• use negative numbers in context, and calculate intervals across 0</li> <li>• solve number and practical problems that involve all of the above</li> </ul>
4-5	<b>Number - addition and subtraction</b> Pupils should be taught to: <ul style="list-style-type: none"> <li>• add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</li> <li>• add and subtract numbers mentally with increasingly large numbers</li> <li>• use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</li> <li>• solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> </ul>	<b>Number - addition, subtraction, multiplication and division</b> Pupils should be taught to: <ul style="list-style-type: none"> <li>• multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</li> <li>• divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</li> <li>• divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context</li> </ul>

5-9	<p><b>Number - multiplication and division A</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers</li> <li>• know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</li> <li>• establish whether a number up to 100 is prime and recall prime numbers up to 19</li> <li>• multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000</li> <li>• recognise and use square numbers and cube numbers, and the notation for squared (<sup>2</sup>) and cubed (<sup>3</sup>)</li> <li>• solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes</li> </ul>	<ul style="list-style-type: none"> <li>• perform mental calculations, including with mixed operations and large numbers</li> <li>• identify common factors, common multiples and prime numbers</li> <li>• use their knowledge of the order of operations to carry out calculations involving the 4 operations</li> <li>• solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> <li>• solve problems involving addition, subtraction, multiplication and division</li> <li>• use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy</li> </ul>
10-15	<p><b>Number - fractions</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• compare and order fractions whose denominators are all multiples of the same number</li> <li>• identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</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{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}</math>]</li> <li>• add and subtract fractions with the same denominator, and denominators that are multiples of the same number</li> </ul>	<p><b>Number</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• use common factors to simplify fractions; use common multiples to express fractions in the same denomination</li> <li>• compare and order fractions, including fractions <math>&gt; 1</math></li> <li>• add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</li> <li>• multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, <math>\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}</math>]</li> <li>• divide proper fractions by whole numbers [for example, <math>\frac{1}{3} \div 2 = \frac{1}{6}</math>]</li> </ul>

	<ul style="list-style-type: none"> <li>multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</li> </ul>	<ul style="list-style-type: none"> <li>associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, <math>\frac{3}{8}</math>]</li> </ul>
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## Spring

Weeks	Y5	Y6
1-4	<p><b>Number - multiplication and division B</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <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</li> <li>multiply and divide numbers mentally, drawing upon known facts</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</li> <li>solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</li> <li>solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</li> </ul>	<p><b>Ratio and proportion</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication and division facts</li> <li>solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison</li> <li>solve problems involving similar shapes where the scale factor is known or can be found</li> <li>solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</li> </ul> <p><b>Algebra</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>use simple formulae</li> <li>generate and describe linear number sequences</li> <li>express missing number problems algebraically</li> <li>find pairs of numbers that satisfy an equation with 2 unknowns</li> <li>enumerate possibilities of combinations of 2 variables</li> </ul>
5-9	<p><b>Number - fractions (including decimals and percentages)</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>read and write decimal numbers as fractions [for example, <math>0.71 = \frac{71}{100}</math>]</li> <li>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> </ul>	<p><b>Number - Fractions (including decimals and percentages)</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places</li> <li>multiply one-digit numbers with up to 2 decimal places by whole numbers</li> </ul>

	<ul style="list-style-type: none"> <li>round decimals with 2 decimal places to the nearest whole number and to 1 decimal place</li> <li>recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal fraction</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{4}{5}</math> and those fractions with a denominator of a multiple of 10 or 25</li> <li></li> </ul>	<ul style="list-style-type: none"> <li>use written division methods in cases where the answer has up to 2 decimal places</li> <li>solve problems which require answers to be rounded to specified degrees of accuracy</li> <li>recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</li> </ul>
10-11	<p><b>Measurement (Area and Perimeter)</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</li> </ul> <p>calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>), and estimate the area of irregular shapes</p>	<p><b>Measurement (Area and Perimeter)</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>recognise that shapes with the same areas can have different perimeters and vice versa</li> <li>recognise when it is possible to use formulae for area and volume of shapes</li> <li>calculate the area of parallelograms and triangles</li> </ul>
12	<p><b>Geometry - position and direction</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <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</li> </ul>	<p><b>Geometry - position and direction</b></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>describe positions on the full coordinate grid (all 4 quadrants)</li> <li>draw and translate simple shapes on the coordinate plane, and reflect them in the axes</li> </ul>

## Summer

Weeks	Y5	Y6
1-2	<b>Geometry - properties of shapes</b> Pupils should be taught to: <ul style="list-style-type: none"> <li>identify 3-D shapes, including cubes and other cuboids, from 2-D representations</li> <li>use the properties of rectangles to deduce related facts and find missing lengths and angles</li> <li>distinguish between regular and irregular polygons based on reasoning about equal sides and angles</li> </ul>	<b>Geometry - properties of shapes</b> Pupils should be taught to: <ul style="list-style-type: none"> <li>draw 2-D shapes using given dimensions and angles</li> <li>recognise, describe and build simple 3-D shapes, including making nets</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> <li>illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> <li>recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles</li> </ul>
3-4	<b>Measurement</b> Pupils should be taught to: <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>understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</li> <li>estimate volume [for example, using 1 cm<sup>3</sup> blocks to build cuboids (including cubes)] and capacity [for example, using water]</li> <li>solve problems involving converting between units of time</li> <li>use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling</li> </ul>	<b>Measurement</b> Pupils should be taught to: <ul style="list-style-type: none"> <li>solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate</li> <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, using decimal notation to up to 3 decimal places</li> <li>convert between miles and kilometres</li> </ul> <b>Statistics</b> Pupils should be taught to: <ul style="list-style-type: none"> <li>interpret and construct pie charts and line graphs and use these to solve problems</li> <li>calculate and interpret the mean as an average</li> </ul>

5	<b>Number – Place Value</b> Pupils should be taught to: <ul style="list-style-type: none"> <li>interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0</li> </ul>	<b>SATS WEEK</b>
6-7	<b>Statistics</b> Pupils should be taught to: <ul style="list-style-type: none"> <li>solve comparison, sum and difference problems using information presented in a line graph</li> <li>complete, read and interpret information in tables, including timetables</li> </ul>	<b>Consolidation and Problem Solving</b>
8-10	<b>Number - fractions (including decimals and percentages)</b> Pupils should be taught to: <ul style="list-style-type: none"> <li>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</li> <li>round decimals with 2 decimal places to the nearest whole number and to 1 decimal place</li> <li>read, write, order and compare numbers with up to 3 decimal places</li> <li>solve problems involving number up to 3 decimal places</li> </ul>	
11-12	<b>Consolidation</b>	