

Autumn Term		
Skills	Knowledge	Vocabulary
<p>Pupils will have the opportunity to develop the following skills:</p> <p><b>Number – Place Value</b></p> <ul style="list-style-type: none"> <li>• Read, write, order and compare numbers to at least 1000000 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 1000000.</li> <li>• Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000</li> <li>• Solve number problems and practical problems that involve all of the above.</li> <li>• Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</li> </ul> <p><b>Number- Addition and Subtraction</b></p> <ul style="list-style-type: none"> <li>• Add and subtract numbers using mental strategies.</li> <li>• Add and subtract whole numbers with more than 4 digits, including using formal written methods (column addition and subtraction) 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>	<p>Pupils will have the opportunity to develop their knowledge about:</p> <p><b>Number – Place Value</b></p> <ul style="list-style-type: none"> <li>• Know the place value of numbers up to 1,000,000</li> <li>• Recognise Roman Numerals</li> </ul> <p><b>Number- Addition and Subtraction</b></p> <ul style="list-style-type: none"> <li>• Know strategies for adding and subtracting mentally</li> <li>• Know strategies for adding and subtracting numbers with more than 4 digits</li> </ul>	<p>Place value, digits, ones, tens, hundreds, thousands, millions. Integers, rounding, whole numbers.</p> <p>Addition, subtraction, operation, formal, informal, strategies, mental methods, column, exchange, place holders.</p>

<p><b>Number – multiplication and division</b></p> <ul style="list-style-type: none"> <li>• Multiply and divide numbers mentally drawing upon known facts.</li> <li>• Multiply and divide whole numbers by 10, 100 and 1000.</li> <li>• Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</li> <li>• Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3)</li> <li>• Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.</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> </ul> <p><b>Number – Fractions</b></p> <ul style="list-style-type: none"> <li>• Compare and order fractions whose denominators are multiples of the same number</li> <li>• Recognise mixed numbers and improper fractions and convert from one form to the other</li> <li>• Add and subtract fractions with the same denominator and denominators that are multiples of the same number.</li> </ul>	<p><b>Number – multiplication and division</b></p> <ul style="list-style-type: none"> <li>• Know factors and multiples of numbers.</li> <li>• Recognise square numbers and cube numbers and the notation for squared (2) and cubed (3)</li> <li>• Identify prime numbers - Establish whether a number up to 100 is prime and recall prime numbers up to 19</li> </ul> <p><b>Number (Fractions)</b> - pupils will have the opportunity to develop their knowledge about:</p> <ul style="list-style-type: none"> <li>• Strategies for ordering and comparing fractions</li> </ul>	<p>Factors, common factors, multiples, common multiples, prime, composite, square, cube numbers. Multiply, divide, share, remainders.</p> <p>Numerator, denominator, proper, improper, mixed number.</p>
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Spring		
Skills	Knowledge	Vocabulary
<p>Pupils will have the opportunity to develop the following skills:</p> <p><b>Number (Multiplication and Division)</b> – pupils will have the opportunity to develop the following skills:</p> <ul style="list-style-type: none"> <li>• Multiplying and dividing numbers mentally drawing upon known facts</li> <li>• Multiplying numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2 digit numbers</li> <li>• Dividing 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>• Solving problems involving addition and subtraction, multiplication and division and a combination of these.</li> </ul> <p><b>Number (Fractions)</b> – pupils will have the opportunity to develop the following skills:</p> <ul style="list-style-type: none"> <li>• Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.</li> <li>• Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.</li> </ul>	<p>Pupils will have the opportunity to develop their knowledge about:</p> <p><b>Number (Multiplication and Division)</b> – pupils will have the opportunity to develop their knowledge about:</p> <ul style="list-style-type: none"> <li>• Strategies for multiplying and dividing mentally</li> <li>• Strategies for multiplying up to 4 digits by a one or two digit number and dividing numbers with more than 4 digits by a 1 digit number</li> </ul> <p><b>Number (Fractions)</b> - pupils will have the opportunity to develop their knowledge about:</p> <ul style="list-style-type: none"> <li>• Recognising equivalent fractions</li> <li>• Strategies for calculating with fractions (simple adding/subtracting, multiplying by whole numbers)</li> </ul>	<p>Factors, common factors, multiples, common multiples, prime, composite, square, cube numbers. Multiply, divide, share, remainders.</p> <p>Equivalent, tenths, hundredths.</p>

<ul style="list-style-type: none"> <li>• Read and write decimal numbers as fractions</li> <li>• Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li> </ul> <p><b>Number (Decimals and Percentages)</b> - pupils will have the opportunity to develop the following skills:</p> <ul style="list-style-type: none"> <li>• Read, write, order and compare numbers with up to three decimal places.</li> <li>• Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</li> <li>• Round decimals with two decimal places to the nearest whole number and to one decimal place.</li> <li>• Solve problems involving number up to three decimal places.</li> <li>• Solve problems which require knowing percentage, fraction and decimal equivalents.</li> </ul> <p><b>Perimeter and Area</b></p> <ul style="list-style-type: none"> <li>• Measure and calculate the perimeter of composite rectilinear shapes in cm and m.</li> <li>• Calculate and compare the area of rectangles (including squares), and including using standard units, cm<sup>2</sup>, m<sup>2</sup> estimate the area of irregular shapes.</li> <li>• Distinguish between regular and irregular polygons based on reasoning about equal sides and angles</li> </ul>	<ul style="list-style-type: none"> <li>• Links between fractions and decimals</li> </ul> <p><b>Number (Decimals and Percentages)</b> - pupils will have the opportunity to develop their knowledge about:</p> <ul style="list-style-type: none"> <li>• Place value in numbers with 3 decimal places</li> <li>• The per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.</li> </ul> <p><b>Perimeter and Area</b></p> <ul style="list-style-type: none"> <li>• Understand the terms perimeter and area</li> </ul>	<p>Percentages, decimal, decimal places, denominator</p> <p>Perimeter, area, rectangles, rectilinear, polygons, length, one dimensional and two dimensional.</p>
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<b>Statistics</b> <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>Statistics</b> <ul style="list-style-type: none"> <li>Recognise data in different representations.</li> </ul>	Data, line graphs, tables, timetables
Summer		
Skills	Knowledge	Vocabulary
<p>Throughout the term, pupils will have the opportunity to develop the following skills:</p> <p><b>Number: Place Value</b></p> <ul style="list-style-type: none"> <li>Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero</li> </ul> <p><b>Number: Decimals</b></p> <ul style="list-style-type: none"> <li>Solve problems involving number up to three decimal places.</li> <li>Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</li> <li>Use all four operations to solve problems involving measure [ for example, length, mass, volume, money] using decimal notation, including scaling.</li> </ul>	<p>Pupils will have the opportunity to develop their knowledge about:</p> <p><b>Number: Place Value</b></p> <ul style="list-style-type: none"> <li>Understand the concept of negative numbers</li> </ul> <p><b>Number: Decimals</b></p> <ul style="list-style-type: none"> <li>Know strategies for calculating with decimals</li> </ul>	<p>Negative numbers, zero, positive.</p> <p>Mass, volume, length, money.</p>

<p><b>Geometry - Properties of Shapes and Angles</b></p> <ul style="list-style-type: none"> <li>Identify 3D shapes, including cubes and other cuboids, from 2D representations.</li> <li>Use the properties of rectangles to deduce related facts and find missing lengths and angles.</li> <li>Draw given angles, and measure them in degrees (o)</li> </ul> <p><b>Geometry - position and direction</b></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>Measurement - converting units</b></p> <ul style="list-style-type: none"> <li>Convert between different units of metric measure [for example, km and m; cm and m; cm and mm; g and kg; l and ml]</li> <li>Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.</li> <li>Solve problems involving converting between units of time.</li> </ul>	<p><b>Geometry - Properties of Shapes and Angles</b></p> <ul style="list-style-type: none"> <li>Recognise and describe 3D shapes</li> <li>Understand angles - Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Identify: angles at a point and one whole turn (total 360o), angles at a point on a straight line and ½ a turn (total 180o) other multiples of 90o</li> </ul> <p><b>Geometry - position and direction</b></p> <ul style="list-style-type: none"> <li>Know the vocabulary of shape position</li> </ul> <p><b>Measurement - converting units</b></p> <ul style="list-style-type: none"> <li>Know metric and imperial units</li> </ul>	<p>Cubes, cuboids, nets, angles, degrees, acute, obtuse, reflex, full turn, straight line.</p> <p>Reflect, translate, symmetry.</p> <p>Metric, imperial,</p> <p>km and m; cm and m; cm and mm; g and kg; l and ml</p> <p>Inches, pounds and pints</p>
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<b>Measures: Volume</b> <ul style="list-style-type: none"> <li>Estimate volume [for example using 1cm<sup>3</sup> blocks to build cuboids (including cubes)] and capacity [for example, using water]</li> <li>Use all four operations to solve problems involving measure.</li> </ul>	<b>Measures: Volume</b> <ul style="list-style-type: none"> <li>Understand the concept of volume</li> </ul>	Volume, capacity
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