

Autumn Term		
Skills	Knowledge	Vocabulary
<p>Pupils will have the opportunity to develop the following skills:</p> <p>Number: Place Value</p> <ul style="list-style-type: none"> Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. Round any whole number to a required degree of accuracy. Use negative numbers in context, and calculate intervals across zero. Solve number and practical problems that involve all of the above. <p>Number- addition subtraction, multiplication + division</p> <ul style="list-style-type: none"> Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why. Multiply multi-digit number up to 4 digits by a 2-digit number using the formal written method of long multiplication. Divide numbers up to 4 digits by a 2-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. Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division, interpreting remainders according to the context. 	<p>Pupils will have the opportunity to develop their knowledge about:</p> <p>Number: Place Value</p> <ul style="list-style-type: none"> Know the place value of numbers up to 10,000,000 <p>Number- addition subtraction, multiplication + division</p> <ul style="list-style-type: none"> Know strategies for dividing numbers up to 4 digits by a 2-digit whole number Know how to interpret remainders Know Order of Operations 	<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, order of operations, brackets.</p>

<ul style="list-style-type: none"> • Perform mental calculations, including with mixed operations and large numbers. • Identify common factors, common multiples and prime numbers. • Use their knowledge of the order of operations to carry out calculations involving the four operations. • Solve problems involving addition, subtraction, multiplication and division. • Use estimation to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy. <p>Fractions</p> <ul style="list-style-type: none"> • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. • Compare and order fractions, including fractions > 1 • Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions. • Multiply simple pairs of proper fractions, writing the answer in its simplest form • Divide proper fractions by whole numbers • Find fractions of an amount. <p>Measurement Converting Units</p> <ul style="list-style-type: none"> • Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. 	<p>Fractions</p> <ul style="list-style-type: none"> • Know strategies for simplifying fractions and comparing fractions greater than 1 • Understand fraction sequences • Know strategies calculating with fractions (adding/subtracting with different denominators, multiplying fractions) <p>Measurement: Converting Units</p>	<p>Numerator, denominator, proper, improper, mixed number, equivalent, simplest form.</p> <p>Metric, imperial,</p>
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<ul style="list-style-type: none"> 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 3dp. Convert between miles and kilometres. 	<ul style="list-style-type: none"> measurements of length, mass, volume and time 	km and m; cm and m; cm and mm; g and kg; l and ml Inches, pounds and pints
Spring		
Skills	Knowledge	Vocabulary
<p>Throughout the term pupils will have the opportunity to develop the following skills:</p> <p>Number: Decimals</p> <ul style="list-style-type: none"> Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1,000 giving answers up to 3 decimal places. Add and subtract decimals including questions where the numbers have different numbers of decimal places. Multiply one-digit numbers with up to 2 decimal places by whole numbers. Use written division methods in cases where the answer has up to 2 decimal places. Solve problems which require answers to be rounded to specified degrees of accuracy. <p>Number: Fractions</p> <ul style="list-style-type: none"> Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction 	<p>Pupils will have the opportunity to develop their knowledge about:</p> <p>Number: Decimals</p> <ul style="list-style-type: none"> strategies for adding, subtracting, multiplying and dividing decimals by whole numbers <p>Number: Fractions</p>	<p>Numerator, denominator, proper, improper, mixed</p>

<ul style="list-style-type: none"> Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. <p>Number: Percentages</p> <ul style="list-style-type: none"> Solve problems involving the calculation of percentages and the use of percentages for comparison. Recall and use equivalences between simple fractions, decimals and percentages including in different contexts. <p>Number: Algebra</p> <ul style="list-style-type: none"> Use simple formulae Use one and two step function machines Use the inverse operation to solve missing number questions Substitute values into formulae Generate and describe linear number sequences. Express missing number problems algebraically. Solve one and two step equations Find pairs of numbers that satisfy an equation with two unknowns. Enumerate possibilities of combinations of two variables. <p>Measurement: Perimeter, Area and Volume</p> <ul style="list-style-type: none"> Recognise that shapes with the same areas can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. 	<ul style="list-style-type: none"> Know equivalence between simple fractions, decimals and % (0.25, 0.5 and 0.75) <p>Percentages</p> <ul style="list-style-type: none"> Strategies for calculating percentages <p>Number: Algebra</p> <ul style="list-style-type: none"> understand the concept of algebra; know how to find missing values using algebra <p>Measurement: Perimeter, Area and Volume</p>	<p>number, equivalent, simplest form.</p> <p>Percent – out of one hundred.</p> <p>Formula/e, equations, variables, substitution, linear, sequence, term, expression, unknown, constant, inverse, function.</p> <p>Perimeter, area, volume, triangle, parallelogram, cube, cuboid, formula, length, width, height,</p>
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<ul style="list-style-type: none"> Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using standard units. <p>Number: Ratio</p> <ul style="list-style-type: none"> Solve ratio problems involving the relative sizes of two quantities where missing values can be found by using multipliers. Solve problems involving similar shapes where the scale factor is known or can be found. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. Solve proportions questions including recipes and mixtures. <p>Statistics</p> <ul style="list-style-type: none"> Interpret and construct pie charts and line graphs and use these to solve problems. Calculate the mean as an average. 	<ul style="list-style-type: none"> know how to use formulae for finding area (rectangles, triangles and parallelograms) and volume <p>Number: Ratio</p> <ul style="list-style-type: none"> understand that using ratio is a way of sharing <p>Statistics</p> <ul style="list-style-type: none"> know that pie charts and line graphs are a way to display data know that the mean is a value that represents a set of data. 	<p>dimensions, rectangles, rectilinear, polygons, one dimensional and two dimensional.</p> <p>Ratio, compare, divide, share, unequal, grouping, scale factor, proportion, multiplier, similar, fraction, equivalent.</p> <p>Pie chart, line graph, mean.</p>
Summer		
Skills	Knowledge	Vocabulary
<p>Pupils will have the opportunity to develop the following skills:</p> <p>Geometry: Properties of Shapes</p> <ul style="list-style-type: none"> Draw 2-D shapes using given dimensions and angles. 	<p>Pupils will have the opportunity to develop their knowledge about:</p> <p>Geometry: Properties of Shapes</p> <ul style="list-style-type: none"> Know the properties of 2D and 3D shapes 	<p>Properties, classify, quadrilateral, triangle,</p>

<ul style="list-style-type: none"> • Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons. • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. <p>Geometry- Position and Direction</p> <ul style="list-style-type: none"> • Describe positions on the full coordinate grid (all four quadrants). • Draw and translate simple shapes on the coordinate plane, and reflect them in the axes. 	<ul style="list-style-type: none"> • Know the angle totals at a point and on a straight line • Know the vocabulary for circles. <p>Geometry- Position and Direction</p> <ul style="list-style-type: none"> • Recognise coordinates in all 4 quadrants 	<p>square, rectangle, kite, trapezium, rhombus, parallelogram, regular, hexagon, pentagon, octagon, angles, parallel, perpendicular, vertical, horizontal. Radius, diameter, circumference.</p> <p>Axes, quadrant, positive, negative, coordinate, reflect, translate.</p>
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