

Autumn Themes	Maths Themes	Year 5 Objectives	Year 6 Objectives
New Beginnings (2 weeks)	<ul style="list-style-type: none"> Ordering 	<ul style="list-style-type: none"> Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit. Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. 	<ul style="list-style-type: none"> Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.
	<ul style="list-style-type: none"> Measures key facts - links to measuring ourselves/ athletics 	<ul style="list-style-type: none"> Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre). Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3). 	<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 three decimal places.
Victorian Children (4 weeks)	<ul style="list-style-type: none"> Rounding Adding & Subtracting Problem –solving with rounding to check 	<ul style="list-style-type: none"> Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000. Add and subtract whole numbers with more than 4 digits. Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). Add and subtract numbers mentally with increasingly large numbers (example, $12\,462 - 2300 = 10\,162$) Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. <p>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p> <ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Round any whole number to a required degree of accuracy. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. 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.
	<ul style="list-style-type: none"> Historical Maths 	<ul style="list-style-type: none"> Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. 	<ul style="list-style-type: none"> Convert between miles and kilometres.
	<ul style="list-style-type: none"> Mental Maths Key Skills 	<ul style="list-style-type: none"> Multiply and divide numbers mentally drawing upon known facts. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. 	<ul style="list-style-type: none"> Use their knowledge of the order of operations to carry out calculations involving the four operations. Perform mental calculations, including with mixed operations and large numbers.

	<ul style="list-style-type: none"> Timelines (Historical & general) 	<ul style="list-style-type: none"> Solve problems involving converting between units of time. 	
Geography skills (3 weeks)	<ul style="list-style-type: none"> <u>Ordering and comparing using greater than / less than symbols</u> <u>(link to population sizes)</u> 	<ul style="list-style-type: none"> <u>Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.</u> 	<ul style="list-style-type: none"> Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.
	<u>Temperature comparisons</u>	<ul style="list-style-type: none"> <u>Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.</u> 	<ul style="list-style-type: none"> <u>Use negative numbers in context, and calculate intervals across zero.</u>
	<ul style="list-style-type: none"> <u>Fractions</u> 	<ul style="list-style-type: none"> <u>Compare and order fractions whose denominators are all multiples of the same number.</u> Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $2/5 + 4/5 = 6/5 = 11/5$]. 	<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.
Anti-bullying (1 week)	<ul style="list-style-type: none"> Calculating with Fractions 	<ul style="list-style-type: none"> Add and subtract fractions with the same denominator and denominators that are multiples of the same number. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. 	<ul style="list-style-type: none"> Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $1/4 \times 1/2 = 1/8$]. Divide proper fractions by whole numbers [for example, $1/3 \div 2 = 1/6$].
Evolution and inheritance (2 weeks)	Number Properties	<ul style="list-style-type: none"> <u>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</u> Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 19. 	Identify common factors, common multiples and prime numbers
	Multiply & Divide Written Methods	<ul style="list-style-type: none"> 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. 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. 	<ul style="list-style-type: none"> <u>Multiply multi-digit numbers up to 4 digits by a two-digit whole number.</u> Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. <u>Divide numbers up to 4 digits by a two-digit number and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.</u>

Modern Art (2 weeks)	Properties of 3D shapes	<ul style="list-style-type: none"> Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. Sculpture / cubism Use the properties of rectangles to deduce related facts and find missing lengths and angles. <u>Distinguish between regular and irregular polygons based on reasoning about equal sides and angles</u> 	<ul style="list-style-type: none"> Draw 2-D shapes using given dimensions and angles. Recognise, describe and build simple 3-D shapes, including making nets. <u>Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.</u>
	Area and Perimeter	<ul style="list-style-type: none"> <u>Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</u> <u>Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²).</u> Estimate the area of irregular shapes. 	<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. Calculate the area of parallelograms and triangles.
Scratch (2 weeks)	Angles	<ul style="list-style-type: none"> Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. <u>Draw given angles, and measure them in degrees (0).</u> Identify: <ul style="list-style-type: none"> angles at a point and one whole turn (total 3600); angles at a point on a straight line and 1/2 a turn (total 1800); other multiples of 900. 	<ul style="list-style-type: none"> Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
	Decimals Fractions & Percentages	<p><u>Read and write decimal numbers as fractions</u> [for example, 0.71 = 71/100].</p> <p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</p> <ul style="list-style-type: none"> Round decimals with two decimal places to the nearest whole number and to one decimal place. <u>Read, write, order and compare numbers with up to three decimal places.</u> 	<ul style="list-style-type: none"> Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]. Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places. <p>Multiply one-digit numbers with up to two decimal places by whole numbers</p>

Spring Themes	Maths Themes	Year 5 Objectives	Year 6 Objectives
Holes (4 weeks)	<ul style="list-style-type: none"> Multiply and divide revisited 	<ul style="list-style-type: none"> 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. 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. 	<p><u>Multiply multi-digit numbers up to 4 digits by a two-digit whole number.</u></p> <ul style="list-style-type: none"> Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. <u>Divide numbers up to 4 digits by a two-digit number and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.</u> <u>Describe positions on the full coordinate grid (all four</u>

			<u>quadrants).</u>
	<ul style="list-style-type: none"> • Long Division & key measures facts 	<ul style="list-style-type: none"> • <u>Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).</u> 	<ul style="list-style-type: none"> • 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. •
	<ul style="list-style-type: none"> • Volume and Capacity 	<ul style="list-style-type: none"> • Estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water]. 	Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres (m ³), and extending to other units [for example, mm ³ and km ³].
	<ul style="list-style-type: none"> • Problem Solving (including Ratio and Proportion Y6) 	<ul style="list-style-type: none"> • <u>Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.</u> • Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. 	<ul style="list-style-type: none"> • <u>Ratio and Proportion</u> • Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. •
Africa (2 weeks)	Fraction, Decimal and Percentage equivalents	<p><u>Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25</u></p> <ul style="list-style-type: none"> • • Recognise 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. <p>African facts</p>	<ul style="list-style-type: none"> • Ratio & Proportion • <u>Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison.</u> •
	<u>Temperature and time related problems</u>	<p><u>Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.</u></p> <ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • <u>Use negative numbers in context, and calculate intervals across zero.</u> <p>Solve number and practical problems that involve all</p>
A sense of place (2 weeks)	Three Decimal Places calculations	<ul style="list-style-type: none"> • Solve problems involving number up to three decimal places. <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</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. • <u>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</u> • Solve problems involving addition, subtraction, multiplication and division. <p><u>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate</u></p>

			<u>degree of accuracy.</u>
	Scales and ratio	<u>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</u>	<u>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</u> <ul style="list-style-type: none"> Solve problems involving similar shapes where the scale factor is known or can be found.
Electricity (1 week)	<ul style="list-style-type: none"> Compare, sum and difference Bar Model maths 	<ul style="list-style-type: none"> Solve comparison, sum and difference problems using information presented in a line graph. 	
Local Heritage Project (3-4 weeks)		<u>Complete, read and interpret information in tables, including timetables.</u>	<ul style="list-style-type: none"> <u>Interpret pie charts and line graphs and use these to solve problems.</u> Construct pie charts and line graphs. <u>Calculate and interpret the mean as an average.</u>
	<u>Written Methods</u>	<ul style="list-style-type: none"> <u>Add and subtract whole numbers with more than 4 digits.</u> Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). <u>Add and subtract numbers mentally with increasingly large numbers (example, $12\ 462 - 2300 = 10\ 162$)</u> Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. 	<ul style="list-style-type: none"> <u>Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</u> Solve problems involving addition, subtraction, multiplication and division. <u>Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</u>
	<u>Written Methods</u>	<ul style="list-style-type: none"> 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. 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. Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. 	<p><u>Decimal Division</u> <u>Use written division methods in cases where the answer has up to two decimal places.</u></p> <ul style="list-style-type: none"> <u>Solve problems which require answers to be rounded to specified degrees of accuracy.</u> <p><u>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</u></p>
		<ul style="list-style-type: none"> Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. 	

SUMMER THEMES	Year 5 Objectives	Year 6 Objectives
Changes (1 week)	Objectives to be revisited. The emphasis will depend upon those areas which assessments show need greater practice	
Living Things (3 weeks)	•	Shape and Movement - reflect, translate, rotate
	•	<ul style="list-style-type: none"> • <u>Interpret pie charts and line graphs and use these to solve problems.</u> • <u>Construct pie charts and line graphs.</u> • <u>Calculate and interpret the mean as an average.</u> <p><u>Mean, median, mode and range</u></p>
	•	<ul style="list-style-type: none"> • <u>Algebra</u> • <u>Use simple formulae.</u> • Generate and describe linear number sequences. • Express missing number problems algebraically. • Find pairs of numbers that satisfy an equation with two unknowns. <p>Enumerate possibilities of combinations of two variables.</p>
Asia (2 weeks)	•	
	•	
Cities of the UK (1 week)	•	
Programming (1 week)		