MATHS LONG TERM PLAN – YEAR 6

Autumn 1	**Number and Place Value**	**Four Operations**		**Properties of Shape**
	- Read, order and compare numbers to 1,000,000 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	- Solve problems involving addition, subtraction, multiplication and division - Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why - Perform mental calculations, including with mixed operations and large numbers - Use their knowledge of the order of operations to carry out calculations involving the four operations - Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy - Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication - 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 - 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 - Identify common factors, common multiples and prime numbers		- Draw 2D shapes using given dimensions and angles - Recognise, describe and build simple 3D shapes, including making nets - Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
Autumn 2	**Fractions (including Decimals and Percentages)**	**Algebra**	**Assessment**	**Position and Direction**
	- Compare and order fractions, including fractions greater than 1 - Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions - Use common factors to simplify fractions; use common multiples to express fractions in the same denomination - Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example 1/2 x 1/4 = 1/8] - Divide proper fractions by whole numbers [for example 1/3 ÷ 2 = 1/6] - Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction [for example 3/8 = 0.375]	- Use simple formulae - Generate and describe linear number sequences - Express missing number problems algebraically	- Past papers (test technique and paper review)	- 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

Spring 1	**Four Operations**	**Fractions (including Decimals and Percentages)**			**Ratio and Proportion**	
	- Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why - Use their knowledge of the order of operations to carry out calculations involving the four operations - Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication - 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 - 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 - Identify common factors, common multiples and prime numbers	- Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction - 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 - Multiply one-digit numbers with up to two decimal places by whole numbers - Use written division methods in cases where the answer has up to two decimal places - Solve problems which require answers to be rounded to specified degrees of accuracy - Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts - Solve problems involving the calculation of percentages and the use of percentages for comparison			- 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 problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts - Solve problems involving the calculation of percentages and the use of percentages for comparison	
Spring 2	**Algebra**	**Fractions (including Decimals and Percentages)**	**Measurement**	**Properties of Shape**	**Assessment**	**Statistics**
	- Use simple formulae - Generate and describe linear number sequences - Express missing number problems algebraically - Find pairs of numbers that satisfy an equation with two unknowns - Enumerate possibilities of combinations of two variables	- Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts - Solve problems involving the calculation of percentages and the use of percentages for comparison	- Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate - 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,	- 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	- Past papers (test technique and paper review)	- Interpret and construct pie charts and line graphs and use these to solve problems - Calculate and interpret the mean as an average

			and vice versa, using decimal notation to up to three decimal places - Convert between miles and kilometres - Interpret and construct pie charts and line graphs and use these to solve problems			
Summer 1	**Measurement**		**Revision**	**SATs**	**Consolidation Project: The Colville Games**	
	- 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 - Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres and cubic metres, and extending to other units		Elements of the Year 6 maths curriculum to be revisited as identified by class teacher		- Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate - 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 - Interpret and construct pie charts and line graphs and use these to solve problems - Calculate and interpret the mean as an average	
Summer 2	**Consolidation Project: Personal Finances**		**Consolidation Project: Business Management**		**Consolidation Project: Community Park**	
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