Year 6 Curriculum Map – Maths

StC St Christopher PRIMARY SCHOOL

The teaching of mathematics in **Key Stage 2** should ensure pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources (concrete objects, measuring tools, etc.). At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

Term 1 Numbers to 10,000,000 Number: Place Value (2 Weeks) Calculation: Addition ,Subtraction, Multiplication and Division (5 Weeks) Number: Fractions (4 Weeks) Measurement- Converting Units (1 Week)	Term 2 Numbers to 10,000,000 Number: Ratio (2 Weeks) Number: Algebra (2 Weeks) Number: Decimals (2 Weeks) Number: Fractions, Decimals and Percentages (2 Weeks) Measurement – Area , Perimeter and Volume (2 Weeks) Statistics (2 Weeks)	Term 3 Geometry – Shape (3 Weeks) Geometry - Position and Direction (1 Week)
Number and place value - Solve number problems and practical problems that involve all of the below.		
6NPV–1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).	Round decimal numbers to the nearest whole number (2dp).	Identify the value of each digit to 3 decimal places
6NPV-2 Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit (including decimal numbers). Partition digits	Identify the value of each digit to 3 decimal places.	Use negative numbers in context, and calculate intervals across zero.
6NPV–3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts		Round decimals with three decimal places to the nearest whole number and to one decimal place.
6NPV–4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts		
Round any whole number to a required degree of accuracy.		
Use negative numbers in context, and calculate intervals across zero.		
Count, read and write numbers		
Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. Partition digits		
Algebra		
	Express missing number problems algebraically.	
	Find pairs of numbers that satisfy an equation involving two unknowns. 6AS/MD–4 Solve problems with 2 unknowns.	
	Generate and describe linear number sequences.	
	Enumerate possibilities of combinations of two variables.	
	Use simple formulae.	
Addition and Subtraction Estimating and using inverse operations to check answers to a calculation. Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. Estimate to check answers.		
Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.	6AS/MD–1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).	
6AS/MD–2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding	Add and Subtract decimals	
Perform mental calculations, including with mixed operations and large number.		
Use their knowledge of the order of operations to carry out calculations involving the four operations.		
Multiplication and Division - Solving problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. Estimate to check answers.		
Identify common factors, common multiples and prime and square numbers.	Consolidation of the Autumn term.	.
Rules of divisibility	6AS/MD–4 Solve problems with 2 unknowns.	
Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.	Multiply decimals by 10, 100 or 1000	
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.		
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.		
Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.		
Fractions, Ratio and Proportion – Solve problems involving any of the below.		
Associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8).	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.	
6F-1 Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.	Solve problems involving similar shapes where the scale factor is known or can be found.	
6F–2 Express fractions in a common denomination and use this to compare fractions that are similar in value.	Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	
6F-3 Compare and order fractions, including fractions >1.	6AS/MD–3 Solve problems involving ratio relationships	
Count up and down in tenths, hundredths and thousandths; recognise that thousandths arise when dividing an object or number by one thousand and dividing hundredths by 10.		

Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.		
Multiply fractions by integers		
Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. ¼ × ½ = 1/8).		
Recognise, find and write fractions of a discrete set of objects; unit fractions and non-unit fractions with any denominator.		
Divide proper fractions by whole numbers (e.g.1/3 ÷ 2 = 1/6).		

Decimals and Percentages - Solve problems which require answers to be rounded to specified degrees of accuracy (solving problems involving number up to three decimal places).

	Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are 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 involving the calculation of percentages of whole numbers or measures such as 15% of 360 and the use of percentages for comparison.	
	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	

Geometry - Shape

		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.
		Daw 2-D shapes using given dimensions and angles.
		Revise the names of 2d and 3d shapes
		Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
		Revise the name quadrilaterals and triangles.
		6G–1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.

Geometry – Position and Direction

		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.
		Complete a symmetric figure with respect to a specific line of symmetry, including diagonal lines and reflecting in four quadrants.

Measurement - Solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate.

Use, read, write and convert between standard units, converting measurements of length from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to three decimal places.	Recognise that shapes with the same areas can have different perimeters and vice versa.	
Convert between miles and kilometres.	Recognise when it is necessary to use the formulae for area and volume of shapes.	
Imperial measures	Calculate the area of parallelograms and triangles.	
	Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3) and extending to other units, such as mm^3 and km^3.	

Statistics

	Interpret and construct pie charts and line graphs and use these to solve problems.	
	Solve comparison, sum and difference problems using information presented in line graphs and graphs with two sets of data.	
	Calculate and interpret the mean as an average.	

Rainbow Challenge

	The Sun Recognise multiples of 9 Multiply pairs of multiples of 10 Recall mixed times tables facts Recall multiplication facts for the 75 times table Round any number to the nearest 1000 Halve any number with up to one decimal place Find ¾/75% of any even number to 1000				**The Stars** Recognise multiples of 12 Recognise multiples of 7 Recall mixed times tables facts Recall and recognise cubed numbers Recall multiplication facts for the 25, 50 and 75 times tables Round any number with 2 decimal places to the nearest whole number Identify all factor pairs of any given number to 100