Year 5 Curriculum Map – Maths

Ready to Progress Criteria

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 Number: Place Value - Numbers to 10,000 , Number to 100,000 , Numbers to 1,000,000 (3 Weeks.) Calculation – Addition and Subtraction: (2 Weeks) Calculation – Multiplication and Division (3 Weeks) Calculation- Fractions: Addition and subtraction (4 Weeks)	Term 2 Numbers to 1,000,000 Calculation: Multiplication and Division (3 Weeks) Calculation- Fractions (2 Weeks) Number: Decimals and Percentages- (3 Weeks) Measurement – Area and Perimeter (2 Weeks) Statistics (2 Weeks)	Term 3 Numbers to 1,000,000 Geometry: 2D and 3D shape (3 Weeks) Geometry: Position and Direction (2 Weeks) Number-Decimals (3 Weeks) Number – Negative Numbers (1 Week) Measurement: Converting Units (2 Weeks) Measurement: Volume (1 Week)
Concrete and Pictorial		
Identify and represent numbers to10,000 using concrete objects and pictorial representation.		Interpret negative numbers in context.
Identify and represent numbers 100,000 using concrete objects and pictorial representation.		Compare and order negative numbers
Identify and represent numbers 1,000,000 using concrete objects and pictorial representation.		Find the difference between negative numbers
Number and place value – Solve number problems, and practical problems.		
Read Roman numerals to 1000 (M).	**5NPV–1** Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.	Decimal Sequences
Order and compare numbers to 10,000.	**5NPV–2** Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and nonstandard partitioning	
Order and compare numbers to 100,000.	**5NPV–3** Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.	
Order and compare numbers to 1,000,000.		
Given a number, identify 1, 10, 100, 1000, 10,000, 100,000 more or less.		
Count, read and write numbers - Solve number problems and practical problems.		
Read, write and order numbers to 1, 000,000 in digits and words and determine the value of each digit.		Count coins (1p, 2p, 5p, 10p, 20p and 50p) and solve problems converting between pounds and pence.
Round to the nearest 10, 100, 1000.		Count forward and backwards through 0.
Count in powers of ten from any given number up beyond 1,000,000.		
Count in powers of ten from any given number up to 10,000.		
Round within 100,000		
Round within 1,000,000		
Addition and Subtraction - Estimating and using inverse operations to check answers to a calculation. Solving addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. Estimate to check answers.		
Add and subtract numbers mentally (.e.g. HTU + TU, HTU – TU).		Use known facts to add and subtract decimals within 1
Add and Subtract whole numbers with more than 4 digits using columns.		Complements to 1
Round numbers to check answers		Add and subtract decimals across 1
Multi-step addition and subtraction problems		Add and subtract decimals with different numbers of decimal places
Missing number calculations		
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.		
TTRS throughout the year.	**5MD-3** Multiply numbers up to 4 digits by a one- or two-digit number using an formal written method, including long multiplication for two-digit numbers.	Multiply and divide decimals by 10,100 or 1000
5NF–1 Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.	**5MD-4**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.	Multiply and divide decimals with missing values.
5MD-2 Identify multiples and factors, including finding all factor pairs of a number and common factors of 2 numbers and express a given number as a product of 2 or 3 factors..	Solve problems involving multiplication and division where larger numbers are used by decomposing them into their factors.	
Multiply and divide numbers mentally drawing upon known facts.	Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	
Establish whether a number up to 100 is prime and recall prime numbers up to 19. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.		
Recognise and use square numbers and cube numbers, and the notation for squared and cubed.		
5MD-1 Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.		
Fractions – Solve problems involving any of the below.		

Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.	**5F-1 recognise**, find and write fractions of a discrete set of objects; unit and non-unit fractions of larger denominators.	
Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number.	Recognise, find and write fractions of a discrete set of objects; unit and non-unit fractions of larger denominators.	
Compare and order fractions whose denominators are all multiples of the same number.	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.	
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.	
Count up and down in tenths and hundredths and understand the effects of dividing by 10 and 100.		
5F–2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system.		
5NF–2 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).		
Decimals and Percentages - Solving problems involving numbers up to three decimal places.		
	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 hundred, and as a decimal fraction.	
	5F–3 Recall decimal fraction equivalents for 1/2 ,1/4 , 1/5 and 1/10, and for multiples of these proper fractions.	
	Read and write decimal numbers as fractions [for example, 0.71 = 71/100].	
	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	
	Round decimals with two decimal places to the nearest whole number and to one decimal place.	
	Read, write, order and compare numbers with up to three decimal places.	
	Solve problems which require knowing percentage and decimal equivalents of ½, ¼, ¾, fifths and those with a denominator of a multiple of 10 or 25.	

	Geometry – Properties of Shape	**Geometry – Position and Direction**
		5G-1 Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.
		5G-1 Draw given angles and measure them in degrees.
		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
		Use the properties of rectangles to deduce related facts and find missing lengths and angles.
		Draw quadrilaterals and triangles using given dimensions and angles.
		Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
		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.
		Complete a simple symmetric figure with respect to a specific line of symmetry, including diagonal mirror lines.
		Identify 3D shapes, including cubes and other cuboids from 2D representations.
	Measurement - Using all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	
	5G-2 Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.	Convert between different units of metric measure (Grams, Kilograms, Tonnes).
	5G-2 Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes.	Convert between different units of metric measure (kilometre and metre; centimetre and metre; centimetre and millimetre).
		Understand and use approximate equivalences between metric units and common imperial units such as inches, feet and miles.
		Understand and use approximate equivalences between metric units and common imperial units such as stones, pounds and ounces.
		Estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water].
		Understand and use approximate equivalences between metric units and common imperial units such as fluid ounces, pints and gallons.

				Solve problems involving converting between units of time.	
				5NPV–4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts	
				5NPV–5 Convert between units of measure, including using common decimals and fractions.	
		Statistics			
		Complete, read and interpret information in tables, including timetables.			
		Solve comparison, sum and difference problems using information presented in line graphs.			
Rainbow Challenge					
	Venus Recognise multiples of 4 Recognise multiples of 8 Recall multiplication facts for the 25 times table Recall multiplication facts for the 50 times table Know by heart number bonds to 1000 Round any number to the nearest 100 Halve any number up to 1000				**Mercury** Recognise multiples of 3 Recognise multiples of 6 Recall multiplication facts for the 25 and 50 times table Recall mixed times tables Know by heart square numbers to 12 x 12 Recognise prime numbers to 30 Find a ¼/25% of any even number to 1000 Double any number with up to one decimal place