MathsMap RouteMap Year 5

Strand / Tier	Number and Place Value, approximation and estimation/rounding	Addition, Subtraction, Multiplication & Division (Calculation)	Fractions, Decimals and Percentages	Measurement	Geometry – Properties of Shape & Position and Direction	Statistics
26 End of Year 5 Exp's	• Solve number problems and practical problems that involve all of the below (except 'read Roman numerals')	• 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 (i.e. rounding up or down) • **Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes** • Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign • **Solve problems involving multiplication and division including scaling by simple fractions and problems involving simple rates – (e.g. miles per hour; eggs in a recipe)**	• **Read, write, order and compare numbers with up to three decimal places** • Solve 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' • Write percentages as a fraction with denominator 100 • Write percentages as a decimal • **Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25**	• Use all four operations to solve problems involving measure (e.g. length, mass, volume, and money)	• **Draw given angles and measure them in degrees (^{o})** • 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	

25	• **Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero**
	• Round any whole number up to 1,000,000 to the nearest 10
	• Round any whole number up to 1,000,000 to the nearest 100
	• Round any whole number up to 1,000,000 to the nearest 1000
	• Round any whole number up to 1,000,000 to the nearest 10,000
	• Round any whole number up to 1,000,000 to the nearest 100,000
	• Read Roman numerals to 1000 (M) and recognise years written in Roman numerals
		• Know and use the vocabulary of:
		  ➢ prime numbers,
		  ➢ prime factors and;
		  ➢ composite numbers
		• Establish whether a number up to 100 is prime and recall prime numbers up to 19
		• Recognise and use square and cube numbers, and the notation for squared and cubed
		• Multiply and divide numbers mentally drawing upon known facts
		• Multiply and divide whole numbers and those involving decimals by 10
		• Multiply and divide whole numbers and those involving decimals by 100
		• Multiply and divide whole numbers and those involving decimals by 1000
			• Multiply proper fractions and mixed number fractions by whole numbers, supported by materials and diagrams
			• **Read and write decimal numbers as fractions** (e.g. 0.71 = $\frac{71}{100}$)
			• Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
			• Round decimals with two decimal places to the nearest whole number
			• Round decimals with two decimal places to one decimal place
				• **Measure and calculate the perimeter of composite rectilinear shapes in cm and m**
				• **Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres and square metres**
				• Estimate the area of irregular shapes (I've made this a separate non-bold bullet)
				• Estimate volume (e.g. using 1cm cubes to build cuboids (including cubes)) and capacity (e.g. using water)
					• Identify 3D shapes including cubes and other cuboids, from 2D representations
					• Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles.
					• Identify:
					  ➢ Angles at a point and one whole turn (total 360°)
					  ➢ Angles at a point on a straight line and half a turn (total 180°)
					  ➢ Other multiples of 90°
						• Solve comparison, sum and difference problems using information presented in a line graph

24	• Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 • **Read, write, order and compare numbers to at least 1,000,000** • **Determine the value of each digit in numbers up to 1,000,000**	• **Add and subtract numbers mentally with increasingly large numbers** • **Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)** • Use rounding to check answers to calculations and determine, in the context of the problem, levels of accuracy • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • **Identify multiples and factors, including finding all factor pairs of a number** • **Find common factors of two numbers**	• Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements >1 as a mixed number (e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$) • Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths (e.g. fraction wall) • **Compare and order fractions whose denominators are all multiples of the same number** • Add and subtract fractions with the same denominator • Add and subtract fractions with denominators that are multiples of the same number	• Solve problems involving converting between units of time • **Convert between different units of metric measure** • Understand and use equivalences between metric units and common imperial units, such as inches, pounds and pints	• Use the properties of rectangles to deduce related facts and find missing lengths and angles • **Distinguish between regular and irregular polygons based on reasoning about equal sides and angles**	• **Complete comparison, sum and difference problems using information in tables, including timetables**