Year 5 Maths Objectives

Mathematical vocabulary	Number and place value	Addition and subtraction	Multiplication and division	Fractions (including decimals and percentages)	Measurement	Geometry – properties of shapes	Geometry – position and direction	Statistics
To read, spell and pronounce mathematical vocabulary correctly.	read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers	compare and order fractions whose denominators are all multiples of the same number	convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre]	identify 3-D shapes, including cubes and other cuboids, from 2-D representations	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	solve comparison, sum and difference problems using information presented in a line graph
	round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000	add and subtract numbers mentally with increasingly large numbers	know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles		complete, read and interpret information in tables, including timetables
	solve number problems and practical problems that involve all of the above	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	establish whether a number up to 100 is prime and recall prime numbers up to 19	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, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]	measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	draw given angles, and measure them in degrees (°)		
						Identify:		

	read Roman numerals to 1,000 (M) and recognise years written in Roman numerals	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	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	add and subtract fractions with the same denominator, and denominators that are multiples of the same number	calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm^2) and square metres (m^2), and estimate the area of irregular shapes	angles at a point and 1 whole turn (total 360°) angles at a point on a straight line and half a turn (total 180°)		
	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0		multiply and divide numbers mentally, drawing upon known facts	multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]	other multiples of 90°		
	count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000		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	read and write decimal numbers as fractions [for example, 0.71 $= \frac{71}{100}$]	solve problems involving converting between units of time	use the properties of rectangles to deduce related facts and find missing lengths and angles		
			multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal	distinguish between regular and irregular polygons based on reasoning about equal sides and angles		

					notation, including scaling			
			recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	round decimals with 2 decimal places to the nearest whole number and to 1 decimal place				
			solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes	read, write, order and compare numbers with up to 3 decimal places				
			solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	solve problems involving number up to 3 decimal places				
			solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100,				

				and as a decimal fraction				
				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				