Year 5 Maths	Number and place value	Addition and Subtraction	Multiplication and Division	Fractions (including decimals and percentages)	Measurement	Geometry Properties of Shapes Position and Direction	Statistics
Pupils should be taught to:	▪ read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit ▪ **solve number problems and practical problems that involve all these**	▪ **add** whole numbers with more than 4 digits, including using formal written methods (**columnar addition**)	▪ identify multiples and factors, including finding all factor pairs of a number, and common factors of two 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	▪ solve comparison, sum and difference problems using information presented in a line graph
Pupils should be taught to:	▪ count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 ▪ **solve number problems and practical problems that involve all these**	▪ **subtract** whole numbers with more than 4 digits, including using formal written methods (**columnar subtraction**)	▪ know and use the vocabulary of prime numbers, prime factors and composite (non- prime) numbers ▪ establish whether a number up to 100 is prime and recall prime numbers up to 19	▪ 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.
Pupils should be taught to:	▪ interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero ▪ **solve number problems and practical problems that involve all these**	▪ **add** numbers mentally with increasingly large numbers	▪ 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	▪ 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, 2/5 + 4/5 = 6/5 = 1 1/5]	▪ measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	▪ draw given angles, and measure them in degrees (o)	
Pupils should be taught to:	▪ round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 ▪ **solve number problems and practical problems that involve all these**	▪ **subtract** numbers mentally with increasingly large numbers ▪ use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	▪ multiply and divide numbers mentally drawing upon known facts ▪ 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	▪ 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	▪ calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes	▪ identify: angles at a point and one whole turn (total 360o) angles at a point on a straight line and 1/2 a turn (total 180o) other multiples of 90o	
Pupils should be taught to:	▪ read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	▪ solve **addition** multi-step problems in contexts, deciding which operations and methods to use and why.	▪ multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	▪ read and write decimal numbers as fractions [for example, 0.71 = 71/100] 100	▪ estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]	▪ use the properties of rectangles to deduce related facts and find missing lengths and angles	
Pupils should be taught to:		▪ solve **subtraction** multi-step problems in contexts, deciding which operations and methods to use and why.	▪ recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	▪ recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	▪ solve problems involving converting between units of time	▪ distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	
Pupils should be taught to:			▪ solve problems involving multiplication and division 4 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	▪ 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 involving number 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 100, and as a decimal	▪ use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	▪ identify, describe and represent the position of a shape following a **reflection** using the appropriate language, and know that the shape has not changed. ▪ identify, describe and represent the position of a shape following a **translation,** using the appropriate language, and know that the shape has not changed.	
Pupils should be taught to:			▪ solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	▪ solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25.			