Year 5

Number Number and Place Value	Number Addition and subtraction	Number Multiplication and division	Number Fractions inc Decimals & %	Measurement	Geometry Properties of shape	Geometry Properties 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 · count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 · interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero · 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 of the above · read Roman numerals to 1000 (M) and	Pupils should be taught to: · add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) · add and 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 · solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Pupils should be taught to: · Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers · 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 · 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 · 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 · multiply and divide whole numbers and those involving decimals by 10, 100	Pupils should be taught to: · 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 · 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, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$ · 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 · read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$ · recognise and use thousandths and relate them to tenths, hundredths	Pupils should be taught to: · convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) · understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints · measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres · 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	Pupils should be taught to: · identify 3-D shapes, including cubes and other cuboids, from 2-D representations · know angles are measured in degrees: estimate and compare acute, obtuse and reflex angle · draw given angles, and measure them in degrees (°) **identify:** · angles at a point and one whole turn (total 360°) · angles at a point on a straight line and ½ a turn (total 180°) · other multiples of 90° · use the properties of rectangles to deduce related facts and find missing lengths and angles · distinguish between regular and irregular	Pupils should be taught to: · 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.	Pupils should be taught to: · solve comparison, sum and difference problems using information presented in a line graph · complete, read and interpret information in tables, including timetables.

recognise years written in Roman numerals.		and 1000 · recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) · 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.	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 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 · 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.	· estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water] · solve problems involving converting between units of time · use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	polygons based on reasoning about equal sides and angles.		