Year 5 Statutory Requirements

Number and Place Value

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 recognise years written in Roman numerals.

Addition and Subtraction

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

Multiplication and Division

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 (nonprime) 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 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.

Number -Fractions

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 = 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 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 ½. ¼ , 1/5 , 2/5 , 4 /5 and those fractions with a denominator of a multiple of 10 or 25
Measurement
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 (cm2) and square metres (m2) and estimate the area of irregular shapes ♣ estimate volume [for example, using 1 cm3 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.
Geometry – Properties of 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 angles ♣ 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 2 1 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 polygons based on reasoning about equal sides and angles
Statistics
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.

Overview of Year 5