Hampshire County Council

Year 5: Mathematics

The national curriculum for mathematics aims to ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Key performance indicator	Performance standard
Number and place value Reads, writes, orders and compares numbers to at least 1,000,000 and determines the value of each digit Interprets negative numbers in context, counts forwards and backwards with positive and negative whole numbers including through zero **Addition and subtraction (inc statistics)** Adds and subtracts whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction) Numbers mentally with increasingly large numbers (eg 12,462 – 2,300 = 10,162) **Statistics:** Completes, reads and interprets information in tables, including timetables **Multiplication and division** Identifies multiples and factors including finding all factor pairs of a number and common factors of two numbers Solves problems involving multiplication and division including using a knowledge of factors and multiples, squares and cubes Solves problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates **Fractions (including decimals)** Compares and orders fractions whose denominators are all multiples of the same number Reads and writes decimal numbers as fractions eg 0.71 = 71/100 Reads, writes, orders and compares numbers with up to three decimal places. Solves 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 **Measurement** Converts between different units of metric measure (eg kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) Measures and calculates the perimeter of composite rectilinear shapes in centimetres and metres Calculates and compares the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) **Geometry: properties of shape** Draws given angles and measures them in degrees (0) Distinguishes between regular and irregular polygons based on reasoning about equal sides and angles **Geometry: position and direction** Covered in Y6	**With reference to the KPIs** By the end of Y5, a child should be fluent in formal written methods for addition and subtraction. Using a developing knowledge of formal methods of multiplication and division, a child should be able to solve problems including properties of numbers and arithmetic A child can: • make connections between fractions, decimals and percentages; • classify shapes with geometric properties and use the vocabulary needed to describe them; and • read, spell and pronounce mathematical vocabulary correctly.