



Year Five Key Objectives in Numeracy

Number:
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
Add and subtract whole numbers with more than 4 digits, including formal written methods
Read Roman numerals to 1000 (M) and recognise years written in Roman numerals
Add and subtract numbers mentally with increasingly large numbers
Solve addition and 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)
Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
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 and divide whole numbers and those involving decimals by 10, 100 and 1000
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
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
Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number
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
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
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

Shape, Space and Measure:
Convert between different units of metric measure
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
Estimate volume
Solve problems involving converting between units of time
Use all four operations to solve problems involving measure using decimal notation, including scaling
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.
Identify 3-D shapes, including cubes and other cuboids, from 2-D representations
Use the properties of rectangles to deduce related facts and find missing lengths and angles
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°); at a point on a straight line and 1/2 a turn (total 180°)
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
Complete, read and interpret information in tables, including timetables