Maths New Curriculum

Year 6 Objective Map - New Curriculum

Numbers and Place Value

read, write, order and compare numbers up to
10 000 000 and determine the value of each digit

round any whole number to a required degree of accuracy

use negative numbers in context, and calculate intervals across zero

solve number and practical problems that involve all of the above.

Fractions and Decimals and Percentages

use common factors to simplify fractions; use common multiples to express fractions in the same denomination

compare and order fractions, including fractions > 1

add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

multiply simple pairs of proper fractions, writing the answer in its simplest form

divide proper fractions by whole numbers

associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction

identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places

Ratio and proportion

solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts

solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison

solve problems involving similar shapes where the scale factor is known or can be found

solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Algebra

use simple formulae

generate and describe linear number sequences

express missing number problems algebraically

find pairs of numbers that satisfy an equation with two unknowns

enumerate possibilities of combinations of two variables.

Multiplication, Division, Addition and Subtraction.

multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context

perform mental calculations, including with mixed operations and large numbers

identify common factors, common multiples and prime numbers

use their knowledge of the order of operations to carry out calculations involving the four operations

solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

solve problems involving addition, subtraction, multiplication and division

use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Geometry

draw 2-D shapes using given dimensions and angles

recognise, describe and build simple 3-D shapes, including making nets

compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons

illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius

recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

describe positions on the full coordinate grid (all four quadrants)

draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

Measurement

solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate

use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places

convert between miles and kilometres

recognise that shapes with the same areas can have different perimeters and vice versa
recognise when it is possible to use formulae for area and volume of shapes
calculate the area of parallelograms and triangles
calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3].
Statistics
interpret and construct pie charts and line graphs and use these to solve problems
calculate and interpret the mean as an average.