Year 6 maths

Objective	Strand
Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit	Number – number and place value
Round any whole number to a required degree of accuracy	Number – number and place value
Use negative numbers in context, and calculate intervals across zero	Number – number and place value
Solve number and practical problems that involve all of the above	Number – number and place value
Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	Number – addition, subtraction, multiplication and division
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	Number – addition, subtraction, multiplication and division
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	Number – addition, subtraction, multiplication and division
Perform mental calculations, including with mixed operations and large numbers	Number – addition, subtraction, multiplication and division
Identify common factors, common multiples and prime numbers	Number – addition, subtraction, multiplication and division
Use their knowledge of the order of operations to carry out calculations involving the four operations	Number – addition, subtraction, multiplication and division
Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Number – addition, subtraction, multiplication and division
Solve problems involving addition, subtraction, multiplication and division	Number – 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	Number – addition, subtraction, multiplication and division
Use common factors to simplify fractions; use common multiples to express fractions in the same denomination	Number – fractions (including decimals and percentages)
Compare and order fractions, including fractions > 1	Number – fractions (including decimals and percentages)
Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions	Number – fractions (including decimals and percentages)
Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8]	Number – fractions (including decimals and percentages)
Divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6]	Number – fractions (including decimals and percentages)
Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]	Number – fractions (including decimals and percentages)
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	Number – fractions (including decimals and percentages)
Multiply one-digit numbers with up to two decimal places by whole numbers	Number – fractions (including decimals and percentages)
Use written division methods in cases where the answer has up to two decimal places	Number – fractions (including decimals and percentages)
Solve problems which require answers to be rounded to specified degrees of accuracy	Number – fractions (including decimals and percentages)
Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	Number – fractions (including decimals and percentages)
Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts	Ratio and proportion
Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison	Ratio and proportion
Solve problems involving similar shapes where the scale factor is known or can be found	Ratio and proportion
Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples	Ratio and proportion
Use simple formulae	Algebra
Generate and describe linear number sequences	Algebra
Express missing number problems algebraically	Algebra
Find pairs of numbers that satisfy an equation with two unknowns	Algebra
Enumerate possibilities of combinations of two variables	Algebra
Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate	Measurement
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	Measurement
Convert between miles and kilometres	Measurement
Recognise that shapes with the same areas can have different perimeters and vice versa	Measurement
Recognise when it is possible to use formulae for area and volume of shapes	Measurement
Calculate the area of parallelograms and triangles	Measurement
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]	Measurement

Draw 2-D shapes using given dimensions and angles	Geometry – properties of shapes
Recognise, describe and build simple 3-D shapes, including making nets	Geometry – properties of shapes
Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons	Geometry – properties of shapes
Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius	Geometry – properties of shapes
Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles	Geometry – properties of shapes
Describe positions on the full coordinate grid (all four quadrants)	Geometry – position and direction
Draw and translate simple shapes on the coordinate plane, and reflect them in the axes	Geometry – position and direction
Interpret and construct pie charts and line graphs and use these to solve problems	Statistics
Calculate and interpret the mean as an average	Statistics