

MATHEMATICS ASSESSMENT RECORD

YEAR 6

Number and Place Value	Introduction	Independence	Application	Mastery	Surpassing
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 0					
Solve number and practical problems that involve all of the above					
Addition, Subtraction, Multiplication and Division					
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 4 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					
Fractions (including 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 [for example, $1/4 \times 1/2 = 1/8$]					
Divide proper fractions by whole numbers [for example, $1/3 \div 2 = 1/6$]					
Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $3/8$]					
Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places					
Multiply one-digit numbers with up to 2 decimal places by whole numbers					
Use written division methods in cases where the answer has up to 2 decimal places					
Ratio and Proportion					
Solve problems involving the relative sizes of 2 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 2 unknowns					

Enumerate possibilities of combinations of 2 variables						
Measurement						
Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 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 3 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 (cm ³) and cubic metres (m ³), and extending to other units [for example, mm ³ & km ³]						
Properties of Shape						
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						
Position and Direction						
Describe positions on the full coordinate grid (all 4 quadrants)						
Draw and translate simple shapes on the coordinate plane, and reflect them in the axes						
Statistics						
Interpret and construct pie charts and line graphs and use these to solve problems						
Calculate and interpret the mean as an average						