End of Year 6 Expectations for Maths

*All children should use **all** of the criteria below in their maths to be at the expected standard for a Year 6 child.*

Year 6	Maths Expectations
Counting	use negative numbers in context, and calculate intervals across zero
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
Mental (+/-)	perform mental calculations, including with mixed operations and large numbers
Number Facts (x/÷)	identify common factors, common multiples and prime numbers
Mental (x/÷)	perform mental calculations, including with mixed operations and large numbers
Written (+/-)	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 context
Problems (x/÷)	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

Year 6	Maths Expectations
Comparing Fractions	use common factors to simplify fractions use common multiples to express fractions in the same denomination compare and order fractions, including fractions > 1
Fraction Calculations	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
Decimals as Fractional Amounts	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
Calculating with Decimals	multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places multiply one-digit number with up to two decimal places by whole numbers use written division methods in cases where the answer has up to two decimal places
Percentages	solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison
Fraction Problems	solve problems which require answers to be rounded to specified degrees of accuracy recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
Ratios 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 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.

Year 6	Maths Expectations
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.
Measures	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
Mensuration	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.
Shape Vocabulary	illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
	draw 2-D shapes using given dimensions and angles compare and classify geometric shapes based on their properties and sizes
	recognise, describe and build simple 3-D shapes, including making nets

Year 6	Maths Expectations
	find unknown angles in any triangles, quadrilaterals, and regular polygons
Angles	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 four quadrants) draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
Interpreting data	interpret and construct pie charts and line graphs calculate and interpret the mean as an average
Extracting info from data	use pie charts and line graphs to solve problems