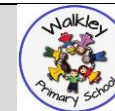


YEAR 6 MATHS CRUCIAL LEARNING



Year 6	Place Value	1. Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. 2. Round any whole numbers to a required degree of accuracy. 3. Use negative numbers in context, and calculate intervals across zero.
Year 6	Addition, Subtraction, Multiplication and Division	1. Identify common factors, common multiples and prime numbers. 2. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. 3. Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. 4. Divide numbers up to 4 digits by a two-digit whole number using the formal written method of short division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. 5. 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. 6. Perform mental calculations, including with mixed operations and large numbers. 7. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. 8. Use their knowledge of the order of operations to carry out calculations involving the four operations.
Year 6	Fractions	1. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. 2. Compare and order fractions, including fractions >1 3. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. 4. Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g., $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) 5. Divide proper fractions by whole numbers (e.g., $\frac{1}{3} \div 2 = \frac{1}{6}$)
Year 6	Decimals	1. Identify the value of each digit to three decimal places. 2. multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places. 3. Multiply one-digit numbers with up to 2 decimal places by whole numbers. 4. Use written division methods in cases where the answer has up to 2 decimal places. 5. Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$].
Year 6	Percentages	1. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. 2. Solve problems involving the calculation of percentages and the use of percentages for comparison.
Year 6	Ratio and Proportion	1. Solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication and division facts. 2. Solve problems using similar shapes where the scale factor is known or can be found.
Year 6	Algebra	1. Use simple formulae 2. Express missing number problems algebraically 3. Find pairs of numbers that satisfy an equation with two unknowns.

Year 6	Using measures (converting units)	1. Use, read and 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. 2. Convert between miles and kilometres. 3. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
Year 6	Perimeter, area and volume	1. Recognise when it is possible to use formulae for area and volume of shapes. 2. Calculate the area of parallelograms and triangles. 3. Calculate, estimate and compare volume of cubes and cuboids using standard units including cubic centimetres and cubic metres and extending to other units (e.g.mm³ and km³)
Year 6	Properties of shape	1. Draw 2D shapes given dimensions and angles. 2. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. 3. Illustrate and name parts of circles including radius, diameter and circumference; know that diameter is twice the radius. 4. Recognise, describe and build simple 3D shapes including making nets. 5. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
Year 6	Position and Direction	1. Describe positions on a full coordinate grid (all four quadrants) 2. Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
Year 6	Present, interpret and solve problems	1. Interpret and construct pie charts and line graphs and use these to solve problems. 2. Calculate an interpret the mean as an average.