



Year Six

<p>Number Place value</p>	<ul style="list-style-type: none"> • 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.
<p>Addition, Subtraction, Multiplication and Division</p>	<ul style="list-style-type: none"> • 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 explain 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.
<p>Fractions (including decimals and percentages)</p>	<ul style="list-style-type: none"> • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. • Compare and order fractions, including fractions greater than 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, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$]. • Divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$]. • Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$]. • 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. • Multiply one-digit numbers with up to two decimal places by whole numbers. • Use written division methods in cases where the answer has up to two decimal places. • 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.
<p>Ratio and Proportion</p>	<ul style="list-style-type: none"> • 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 [For example, 'I need four

	eggs and for every egg I need three spoonfuls of flour. How much flour do I need?']
Algebra	<ul style="list-style-type: none"> • Use simple formulae [for example, the formulae for the area of a rectangle $a=lb$] • Generate and describe linear number sequences. • Express missing number problems algebraically [for example, $78 - y = 45$, $y = ?$] • Find pairs of numbers that satisfy an equation with two unknowns [for example, $p + q = 20$. What could $p + q$ be?] • Enumerate possibilities of combinations of two variables.
Measurement	<ul style="list-style-type: none"> • 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 (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3].
Geometry Properties of Shapes	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.
Statistics	<ul style="list-style-type: none"> • Interpret and construct pie charts and line graphs and use these to solve problems. • Calculate and interpret the mean as an average.