



Mathematics Overview- Year 6

	Number and Place Value, approximation and estimation/rounding	Addition, Subtraction, Multiplication & Division (Calculation)	Fractions, Decimals and Percentages	Ratio and Proportion	Algebra	Measurement	Geometry – Properties of Shape & Position and Direction	Statistics
1	<ul style="list-style-type: none"> Read, write, order and compare numbers up to 10,000,000 	<ul style="list-style-type: none"> Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why 	<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 >1 	<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 	<ul style="list-style-type: none"> Express missing number problems algebraically 	<ul style="list-style-type: none"> Use, read, write and convert between standard units using up to three decimal places 	<ul style="list-style-type: none"> Compare and classify geometric shapes based on their properties and sizes 	<ul style="list-style-type: none"> Calculate and interpret the mean as an average
2	<ul style="list-style-type: none"> Determine the value of each digit in numbers up to 10,000,000 	<ul style="list-style-type: none"> Identify common factors, common multiples and prime numbers 	<ul style="list-style-type: none"> 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 (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$) 	<ul style="list-style-type: none"> Solve problems involving the calculation of percentages (e.g. of measures) such as 15% of 360) and the use of percentages for comparison 	<ul style="list-style-type: none"> Use simple formulae 	<ul style="list-style-type: none"> Convert between miles and km 	<ul style="list-style-type: none"> Describe simple 3D shapes Draw 2D shapes using given dimensions and angles 	<ul style="list-style-type: none"> Interpret pie charts and use these to solve problems
3	<ul style="list-style-type: none"> Use negative numbers in context, and calculate intervals across zero 	<ul style="list-style-type: none"> Perform mental calculations, including with mixed operations and large numbers 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 short division 	<ul style="list-style-type: none"> Divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$) Associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$) Identify the value of each digit to three decimal places 	<ul style="list-style-type: none"> Solve problems involving the calculation of percentages (e.g. of measures) such as 15% of 360) and the use of percentages for comparison 	<ul style="list-style-type: none"> Generate and describe linear number sequences 	<ul style="list-style-type: none"> Recognise that shapes with the same areas can have different perimeters and vice versa 	<ul style="list-style-type: none"> Recognise and build simple 3D shapes, including making nets 	<ul style="list-style-type: none"> Interpret line graphs and use these to solve problems
4	<ul style="list-style-type: none"> Round any whole number to a required degree of accuracy (in 	<ul style="list-style-type: none"> When dividing, interpret remainders as whole number remainders, fractions, or by rounding, 	<ul style="list-style-type: none"> Multiply and divide numbers with three decimal places by 10 giving answers up to three decimal places 	<ul style="list-style-type: none"> Solve problems involving similar shapes, where the scale 	<ul style="list-style-type: none"> Find pairs of numbers that satisfy an equation with 	<ul style="list-style-type: none"> Calculate the perimeter of parallelograms and triangles 	<ul style="list-style-type: none"> Find unknown angles in any triangles, quadrilaterals and regular polygons 	<ul style="list-style-type: none"> Construct line graphs and use these to solve problems

	context)	as appropriate to the context	<ul style="list-style-type: none"> • Multiply and divide numbers with three decimal places by 100 giving answers up to three decimal places • Multiply and divide numbers with three decimal places by 1000 giving answers up to three decimal places • Multiply one-digit numbers with up to two-decimal places by whole numbers 	factor is known or can be found	two unknowns	<ul style="list-style-type: none"> • Recognise when it is possible to use the formulae for the area of shapes 	<ul style="list-style-type: none"> • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles 	
5	<ul style="list-style-type: none"> • Round any whole number to a required degree of accuracy (in context) 	<ul style="list-style-type: none"> • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • Use their knowledge of the order of operations to carry out calculations involving the four operations • Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy 	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples 	<ul style="list-style-type: none"> • Enumerate all possibilities of combinations of two variables 	<ul style="list-style-type: none"> • Calculate, estimate and compare volume of cubes and cuboids using standard units (mm^3 to km^3) • Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate • Recognise when it is possible to use the formulae for the volume of shapes 	<ul style="list-style-type: none"> • Illustrate and name parts of a circle, including radius, diameter and circumference and know that the diameter is twice the radius • Draw and translate simple shapes on the co-ordinate plane, and reflect them in the axes • Describe positions on the full co-ordinate grid (all four quadrants) 	<ul style="list-style-type: none"> • Construct pie charts and use these to solve problems
6	<ul style="list-style-type: none"> • Solve number problems and practical problems that involve all of the above 	<ul style="list-style-type: none"> • Solve calculation problems that involve all of the above 	<ul style="list-style-type: none"> • Solve problems involving fraction, decimals and percentages where answers require an understanding of equivalence 	Solve problems involving an understanding	<ul style="list-style-type: none"> • Use algebra to solve problems 	<ul style="list-style-type: none"> • Solve problems involving measures metric and imperial forms 	<ul style="list-style-type: none"> • Solve problems and puzzles involving all of the above 	<ul style="list-style-type: none"> • Solve mathematical investigations by analysing and interpreting data