

# Mathematics Curriculum Progression – Year 6

When	Unit	National Curriculum Coverage	Progressive small steps of learning	Vocabulary to be recalled from prior learning	New Vocabulary
Autumn	Place Value	Number & Place value	Numbers to 1,000,000 Numbers to 10,000,000 Read and write numbers to 10,000,000 Powers of 10 Number line to 10,000,000 Compare and order any integers Round any integer Negative numbers	Ones Tens Hundreds Thousands Ten Thousands Hundred Thousands Millions	Ten Millions
	Addition, Subtraction, Multiplication, Division	Number Addition & Subtraction Multiplication & Division	Add and subtract integers Common factors Common multiples Rules of divisibility Primes to 100 Square and cube numbers Multiply up to a 4-digit number by a 2-digit number Solve problems with multiplication Short division Division using factors Introduction to long division Long division with remainders Solve problems with division Solve multi-step problems Order of operations Mental calculations and estimation Reason from known facts	Plus Increase Sum Total Altogether Double Minus Decrease How many are left/left over? Difference between	
	Fractions	Fractions	Pupils explain how to write a fraction in its simplest form Pupils reason and apply their knowledge of how to write a fraction in its simplest form Pupils use their knowledge of how to write a fraction in its simplest form when solving addition and subtraction problems (1) Pupils use their knowledge of how to write a fraction in its simplest form when solving addition and subtraction problems (2) Pupils use their knowledge of how to write a fraction in its simplest form when solving multiplication problems Pupils explain, using an image, how to add related fractions (unit fractions) Pupils explain what is meant by 'related fractions' Pupils explain, without using an image, how to add related fractions Pupils use their knowledge of adding related fractions to solve problems in a range of contexts Pupils explain, with and without using an image, how to subtract related fractions (unit fractions) Pupils use their knowledge of adding and subtracting related fractions to solve problems in a range of contexts Pupils explain, with and without using an image, how to add and subtract related fractions (non-unit fractions) Pupils explain, with and without using an image, how to add and subtract related fractions (non-unit fractions that bridge the whole) Pupils explain how to multiply two unit fractions Pupils explain how to multiply two non-unit fractions Pupils explain how to divide a unit fraction by a whole number Pupils explain how to divide a non-unit fraction by a whole number Pupils explain when and how to divide efficiently a fraction by a whole number Pupils explain what percent means Pupils explain how to represent a percentage in different ways Pupils explain how to convert percentages to decimals and fractions (with a denominator of 100) Pupils explain how to convert a percentage to a fraction (without denominator of 100) Pupils use their knowledge of fraction-decimal-percentage conversions to solve conversion problems in a range of contexts Pupils use their knowledge of calculating 50%, 10% and 1% of a number to solve problems in a range of contexts Pupils use their knowledge of calculating common percentages of a number to solve problems in a range of contexts Pupils use their knowledge of calculating any percentage of a number to solve problems in a range of contexts Pupils explain how to solve problems where the percentage part and the size of the part is known and the whole is unknown Pupils explain how to solve problems where the known percentage part and the size of the part changes the whole	Common factor Common denominator Whole number Numerator Denominator Unit fraction Non-unit fraction	Simplest form Percentage

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Spring	Algebra	Number Multiplication & Division	1-step function machines 2-step function machines Form expressions Substitution Formulae Form equations Solve 1-step equations Solve 2-step equations Find pairs of values Solve problems with two unknowns		Formula Formulae Equation Unknown Variable Output Input
	Converting Measures	Measurement	Metric measures Convert metric measure Calculate with metric measures Miles and kilometres Imperial measures	centimetre metre kilometre kilograms grams millilitre millimetre litres mass	metric imperial tonnes
	Ratio	Ratio and proportion	Add or multiply? Use ratio language Introduction to the ratio symbol Ratio and fractions Scale drawing Use scale factors Similar shapes Ratio problems Proportion problems Recipes	Part Whole Scale factor Enlargement Similar shapes Length Width Perimeter	Ratio Proportion “For every.... there are ....”
Summer	Area, perimeter and volume	Measurement	Shapes - same area Area and perimeter Area of a triangle – counting squares Area of a right-angled triangle Area of any triangle Area of a parallelogram Volume - counting cubes Volume of a cuboid	Area Perimeter Quadrilateral Length Integer Rectilinear	
	Position and Direction	Geometry – position and direction	The first quadrant Read and plot points in four quadrants Solve problems with coordinates Translations Reflections	Axis X-Axis Y-Axis Horizontal Vertical Quadrant Positive Negative Plot Brackets Origin Co-ordinate	

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<b>Properties of Shape</b>	Geometry – properties of shape	Measure and classify angle Calculate angles Vertically opposite angles Angles in a triangle Angles in a triangle – special cases Angles in a triangle – missing angles Angles in quadrilaterals Angles in polygons Circles Draw shapes accurately Nets of 3-D shapes	Angle Triangle Quadrilateral Polygon 3-D shape Classify Acute Obtuse Reflex Right angle	
<b>Statistics</b>	Statistics	Line graphs Dual bar charts Read and interpret pie charts Pie charts with percentages Draw pie charts The mean	Line graph Pie chart Percentage Mean	