

## Bassingbourn Community Primary School Curriculum: Mathematics

Fluency in manipulating numbers, reasoning and problem solving underpin all learning in mathematics.

Year	<b>Number</b>				<b>Algebra</b>
	Number and place value	Addition and subtraction	Multiplication and division	Fractions (including decimals and percentages)	Algebra
Y5	count forwards or backwards in steps of powers of 10 for any given number up to 1000000, read, write, order and compare numbers to at least 1000 000 and determine the value of each digit, round any number up to 1 000000 to the nearest 10, 100, 1 000, 10 000 and 100000, solve number problems	add and subtract numbers mentally with increasingly large numbers, add and subtract whole numbers with more than 4 digits, including using formal written methods, use rounding to check answers to calculations	multiply and divide numbers mentally drawing upon known facts, multiply and divide whole numbers and those involving decimals by 10, 100 and 1000, multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers, divide numbers up to 4 digits by a one-digit number using the formal written method of short division, identify multiples and factors, recognise and use square numbers and cube numbers, solve problems involving multiplication and division	recognise and use thousandths, compare and order fractions, read, write, order and compare numbers with up to three decimal places, identify, name and write equivalent fractions, read and write decimal numbers as fractions, recognise the per cent symbol (%), solve problems which require knowing percentage and decimal equivalents	use the properties of rectangles to deduce related facts and find <b>missing lengths and angles</b> (copied from Geometry: Properties of Shapes)
Y6	read, write, order and compare numbers up to 10 000000 and determine the value of each digit, round any whole number to a required degree of accuracy, solve number and practical problems	perform mental calculations, including with mixed operations and large numbers, use their knowledge of the order of operations to carry out calculations involving the four operations, use estimation to check answers	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 where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, identify common factors, common multiples and prime numbers, solve problems involving addition, subtraction, multiplication and division	compare and order fractions, identify the value of each digit in numbers given to three decimal places, use common factors to simplify fractions, recall and use equivalences between simple fractions, decimals and percentages, multiply simple pairs of proper fractions, divide proper fractions by whole numbers, multiply one-digit numbers with up to two decimal places by whole numbers, identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000	express missing number problems algebraically, find pairs of numbers that satisfy number sentences involving two unknowns, enumerate all possibilities of combinations of two variables, use simple formulae, recognise when it is possible to use <b>formulae</b> for area and volume of shapes (copied from Measurement) generate and describe linear number sequences

	Ratio and proportion	Measurement	Geometry		Statistics
		Measure	Properties of shapes	Position and direction	Data
Y5		calculate and compare the area of squares and rectangles ( $m^2$ ) and estimate the area of irregular shapes, estimate volume, use all four operations to solve problems involving measures, measure and calculate perimeter in cm and m, solve problems involving converting between units of time	use the properties of rectangles to deduce related facts and find missing lengths and angles, distinguish between regular and irregular polygons, know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	complete, read and interpret information in tables, including timetables, solve comparison, sum and difference problems using information presented in a line graph
Y6	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	calculate, estimate and compare volume of cubes and cuboids using standard units, solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate, recognise that shapes with the same areas can have different perimeters and vice versa	recognise, describe and build simple 3-D shapes, including making nets, illustrate and name parts of circles, including radius, diameter and circumference, draw 2-D shapes using given dimensions and angles, compare and classify geometric shapes and find unknown angles in any triangles, quadrilaterals, and regular polygons	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	interpret and construct pie charts and line graphs and use these to solve problems, calculate and interpret the mean as an average