



Year 4 Programme of Study

Mathematics Mastery is fully aligned to the National Curriculum. Our Programmes of Study outline the objectives taught throughout the year in Mathematics Mastery lessons*.

*Some National Curriculum objectives are also further embedded during Maths Meetings, see Maths Meeting termly guidance [here](#).

Autumn	1. Reasoning with 4-digit numbers (2 weeks)	<ul style="list-style-type: none"> • find 1000 more or less than a given number • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • solve number and practical problems that involve all of the above and with increasingly large positive numbers • identify, represent and estimate numbers using different representations • round any number to the nearest 10, 100 or 1000 • count in multiples of 25 and 1000 (through lesson Transitions as well as multiples of 10, 100 and 50)
	2. Addition and subtraction (3 weeks)	<ul style="list-style-type: none"> • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why
	3. Multiplication and division (4 weeks)	<ul style="list-style-type: none"> • recall multiplication and division facts for multiplication tables up to 12×12 • solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects • recognise and use factor pairs and commutativity in mental calculations • use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers • multiply two-digit and three-digit numbers by a one-digit number using formal written layout
	4. Interpreting and presenting data (2 weeks)	<ul style="list-style-type: none"> • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs • interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs



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Spring	5. Calculating with multiplication and division (1 week)	<ul style="list-style-type: none"> recall multiplication and division facts for multiplication tables up to 12×12 use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers practise to become fluent in the formal written method of short multiplication and short division with exact answers (non-statutory)
	6. Fractions (4 weeks)	<ul style="list-style-type: none"> add and subtract fractions with the same denominator recognise and show, using diagrams, families of common equivalent fractions count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$] (Y5 objective)
	7. Time (1 week)	<ul style="list-style-type: none"> convert between different units of measure [for example, hour to minute] problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days write and convert time between analogue and digital 12- and 24-hour clocks
	8. Decimals (3 weeks)	<ul style="list-style-type: none"> find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ round decimals with one decimal place to the nearest whole number compare numbers with the same number of decimal places up to two decimal places
	9. Area and perimeter (2 weeks)	<ul style="list-style-type: none"> measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres convert between different units of measure [for example, kilometre to metre] find the area of rectilinear shapes by counting squares calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) (Y5 objective) measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres (Y5 objective)



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Summer	10. Solving measure and money problems (3 weeks)	<ul style="list-style-type: none"> convert between different units of measure [for example, kilometre to metre; hour to minute] solve simple measure and money problems involving fractions and decimals to two decimal places estimate, compare and calculate different measures, including money in pounds and pence
	11. 2-D shape and symmetry (3 weeks)	<ul style="list-style-type: none"> compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes identify acute and obtuse angles and compare and order angles up to two right angles by size identify lines of symmetry in 2-D shapes presented in different orientations complete a simple symmetric figure with respect to a specific line of symmetry
	12. Position and direction (1 week)	<ul style="list-style-type: none"> describe positions on a 2-D grid as coordinates in the first quadrant describe movements between positions as translations of a given unit to the left/right and up/down plot specified points and draw sides to complete a given polygon
	13. Reasoning with patterns and sequences (2 weeks)	<ul style="list-style-type: none"> read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value count backwards through zero to include negative numbers recognise and use square numbers, and the notation for squared (²) (Y5 objective)
	14. 3-D shape (1 week)	<ul style="list-style-type: none"> identify 3-D shapes, including cubes and other cuboids, from 2-D representations (Y5 objective)