Year 3 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. Number sense and exploring calculation strategies** **(3 weeks)**	• recognise the place value of each digit in a two-digit number (tens, ones) (Y2 objective) • read and write numbers up to 100 in numerals and in words (Y2 objective) • compare and order numbers (up to 100) • find 10 more or less than a given number (Do Nows and transitions) • identify, represent and estimate numbers using different representations, including the number line • solve number problems and practical problems involving these ideas • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction • add and subtract amounts of money to give change, using both £ and p in practical contexts
	2. Place value **(2 weeks)**	• find 10 or 100 more or less than a given number • recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • compare and order numbers up to 1000 • read and write numbers up to 1000 in numerals and in words • solve number problems and practical problems involving these ideas • count from 0 in multiples of 50 and 100 • round any number to the nearest 10 or 100 (Y4 objective)
	3. Graphs **(1 week)**	• interpret and present data using bar charts, pictograms and tables • solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables
	4. Addition and subtraction **(3 weeks)**	• add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds • add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction • estimate the answer to a calculation and use inverse operations to check answers • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction
	5. Length and perimeter **(2 weeks)**	• measure, compare, add and subtract: lengths (m/cm/mm) • measure the perimeter of simple 2-D shapes • continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed … and simple equivalents of mixed units (for example, 5m = 500cm) (non-statutory) • measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres (Y4 objective)

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Spring	**6. Multiplication and division (2 weeks)**	• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • count from zero in multiples of 4 • solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which *n* objects are connected to *m* objects • Practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables.
	7. Calculating with multiplication and division (3 weeks)	• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods • solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which *n* objects are connected to *m* objects • use place value, known and derived facts to multiply and divide mentally (Y4 objective)
	8. Time (2 weeks)	• tell and write the time using 12-hour analogue and digital clocks, including using Roman numerals from I to XII • estimate and read time with increasing accuracy to the nearest minute • record and compare time in terms of seconds, minutes and hours • use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight • know the number of seconds in a minute and the number of days in each month, year and leap year • compare durations of events [for example to calculate the time taken by particular events or tasks]
	9. Fractions (3 weeks)	• recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators • recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • count up and down in tenths • recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 • recognise and show, using diagrams, equivalent fractions with small denominators • add and subtract fractions with the same denominator within one whole [*for example,* $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$] • compare and order unit fractions, and fractions with the same denominators • solve problems that involve all of the above

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Summer	**10. Angles and shape** **(3 weeks)**	• recognise angles as a property of shape or a description of a turn • identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle • identify horizontal and vertical lines and pairs of perpendicular and parallel lines • draw 2-D shapes and make 3-D shapes using modelling materials • recognise 3-D shapes in different orientations and describe them • measure the perimeter of simple 2-D shapes
	11. Measures (3 weeks)	• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction • continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed units (for example, 1 kg and 200g) and simple equivalents of mixed units (for example, 5m = 500cm) (non-statutory)
	12. Applying multiplicative thinking **(1 week)**	• write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods • solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
	13. Exploring calculation strategies and place value (2 weeks)	• add and subtract numbers mentally • 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 (Y4 objective) • Using a variety of representations, including measures, pupils become fluent in the order and place value of numbers beyond 1000, including counting in tens and hundreds, and maintaining fluency in other multiples through varied and frequent practice (non-statutory) • 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) (Y4 objective) • order and compare numbers beyond 1000 (Y4 objective) • round any number to the nearest 10, 100 or 1000 (Y4 objective)