

Roxbourne Mathematics Curriculum



Year Group		HT1	HT2	HT3	HT4	HT5	HT6
Reception	Unit	Unit 1: Early mathematical experiences Unit 2: Pattern and early number Unit 3: Numbers within 6	Unit 4: Addition and Subtraction within 6 Unit 5: Measures Unit 6: Shape and Sorting Unit 7: Numbers within 10	Unit 8: Calendar and Time Unit 9: Addition and Subtraction within 10 Unit 10: Grouping and Sharing Consolidation	Unit 11: Number patterns within 15 Unit 12: Doubling and Halving Unit 13: Shape and Pattern Consolidation	Unit 14: Securing addition and subtraction facts Unit 15: Number patterns within 20 Unit 16: Number patterns beyond 20	Unit 17: Money Unit 18: Measures Unit 19: Exploration of patterns within numbers
	Objectives	•Classifying objects based on one attribute •Matching equal and unequal sets •Comparing objects and sets •Ordering objects and sets •Recognise, describe, copy and extend colour and size patterns •Count and represent the numbers 1 to 3 •Estimate and check by counting •Count up to six objects. •One more or one fewer •Order numbers 1 – 6 •Conservation of numbers within six	•Explore zero •Explore addition and subtraction •Estimate, order compare, discuss and explore capacity, weight and lengths •Describe and sort 3-D shapes •Describe position accurately•Count up to ten objects •Represent, order and explore numbers to ten •One more or fewer, one greater or less	•Days of the week, seasons •Sequence daily events •Explore addition as counting on and subtraction as taking away •Counting and sharing in equal groups •Grouping into fives and tens •Relationship between grouping and sharing	•Count up to 15 objects and recognise different representations •Order and explore number patterns to 15 •One more or fewer •Doubling and halving •Relationship between doubling and halving •Describe and sort 2-D and 3-D shapes •Recognise, complete and create patterns	•Commutativity •Explore addition and subtraction •Compare two amounts •Count up to 10 and beyond with objects •Represent, compare and explore numbers to 20 •One more or fewer •One more one less •Estimate and count •Grouping and sharing	•Coin recognition and values •Combinations to total 20p •Change from 10p •Describe capacities •Compare volumes •Compare weights •Estimate, compare and order lengths •Explore numbers and strategies •Recognise and extend patterns •Apply number, shape and measures knowledge •Count forwards and backwards
Year 1	Unit	Unit 1: Numbes within 10 Unit 2: Adding and Subtracting within 10 Unit 3: Shape and patterns	Unit 4: Numbers within 20 Unit 5: addition and subtraction within 20.	Unit 6: Time Unit 7: Exploring calculation strategies within 20. Unit 8: Number to 50	Unit 9: Addition and subtraction within 20 Unit 10: Fractions Unit 11: Measures, Length and Mass	Unit 12: Numbers 50 to 100 and beyond. Unit 13 - Addition and Subtraction within 100 Unit 14 - Money	Unit 14: Money continued Unit 15 - Multiplication and Division Unit 16 - Volume and Capacity
	Objectives	•Represent, compare and explore numbers within 10 •One more and one less •Doubling and halving •Represent and explain addition and subtraction •Commutativity •Addition and subtraction facts •Identify, describe, sort and classify 2-D and 3-D shapes •Investigate repeating patterns •Use and follow instructional and positional language	•Identify, represent, compare and order numbers to 20 •Doubling and halving •One more and one less •Represent and explain addition and subtraction strategies including 'Make Ten' •Use known facts to add and subtract	•Read, write and tell the time to o'clock and half past on analogue clock •Sequencing daily activities •Whole and half turns linked to time •Model, explain and choose addition and subtraction strategies •2-digit numbers – represent, sequence, explore, compare. •Count in 2s, 5s and 10s •Describe and complete number patterns	•Illustrate, explain and link addition and subtraction with equations •Apply 'Make Ten' strategy •Use language to quantify and compare difference •Identify 1/2 and 1/4 of a shape or object •Find 1/2 and 1/4 of a quantity •Compare and measure lengths and mass using cm and kg •Doubling and halving	•Read, write, represent, compare and order numbers to 100 •One more / fewer, ten more / fewer •Identify number patterns •Explore addition and subtraction involving 2-digit numbers and ones •Represent and explain addition and subtraction with regrouping •Investigate number bonds within 20 •Name coins and notes and understand their value •Represent the same value using different coins •Find change	•Explore arrays •Share equally into groups •Doubling •Link halving to fractions •Compare capacities, volumes and lengths •Explore litres •Apply understanding of fractions to capacity
Year 2	Unit	Unit 1: Numbers within 100 Unir 2: Add and Subtract 2 digit numbers Unit 3: Addition and subtraction word problems	Unit 4: Measuring length Unit 5: Graphs Unit 6: Multiplication and division: 2, 5 and 10	Unit 7: Time Unit 8: Fractions Unit 9: Addition and subtraction of 2-digit numbers (regrouping and adjusting)	Unit 9: Add and subtract two digit numbers (regrouping and adjusting) Unit 10: Money Unit 11: Face, shapes and patterns; Lines and turns	Unit 12: Numbers within 1000 Unit 13: Measures: Capacity and volume	Unit 14: Measures:Mass Unit 15: Exploring calculation strategies Unit 16: Exploring multiplicative thinking
	Objectives	•Read, write, represent, partition, compare and order numbers to 100 •Explore patterns including, odds and evens, tens and ones •Apply number bonds to add and subtract •Represent and explain addition and subtraction of two 2-digit numbers. •Add three 1-digit numbers •Introduction to bar models as a representation •Create, label and sketch bar models	•Draw and measure lengths in centimetres •Use <, > and = to compare and order lengths in metres and centimetres •Represent and interpret: pictograms, block diagrams, tables and tally charts. •Explore multiplication and division through arrays •Explore division as grouping and as sharing •Connect multiplication and division facts using commutativity and inverse •Calculate the times tables of 2, 5, and 10 using different strategies	•Tell the time on an analogue clock: quarter past, quarter to and five minute intervals •Calculate durations of time in minutes and seconds •Sequence daily events •Minutes in an hour and hours in a day •Part-whole relationships •Fractions as part of a whole or a whole set •Relate to division •Equivalent fractions •Illustrate, represent and explain addition and subtraction involving regrouping including 'Make Ten', 'Round and adjust' and near doubles strategies	•Illustrate, represent and explain addition and subtraction involving regrouping including 'Make Ten', 'Round and adjust' and near doubles strategies •Recognise coins and notes •Use £ and p accurately •Add and subtract amounts •Calculate change •Explore, sort and describe 2-D shapes •Lines of symmetry in 2-D shapes •Identify 2-D shapes on 3-D shapes •Compare and sort 2-D and 3-D shapes •Use language to describe position, direction and rotation to follow a route	•Represent in different ways •Compare using symbols •Read scales •Read and measure temperature •Estimate, measure and understand litres and millilitres •Compare and order capacities •Weigh and compare masses in kilograms and grams	•Weigh and compare masses in kilograms and grams •Apply addition and subtraction strategies to solve equations •Illustrate and explain addition and subtraction using column method •Pattern seek with multiples of 2, 3, 4 5 and 10 using an array •Use known facts to derive facts from the 3 and 4 times tables. •Connect multiplication and division facts using commutativity and inverse
Year 3	Unit	Unit 1: Number sense and exploring calculation Unit 2: Place Value Unit 3: Graphs	Unit 4: Addition and subtraction Unit 5: Length and perimeter	Unit 6: Multiplication and division Unit 7: Calculating with multiplication and division	Unit 8: Time Unit 9: Fractions	Unit 10 - Angles and Shapes Unit 11 - Measures	Unit 11 - Measures Continued Unit 12 - Securing Multiplication and Division Unit 13 - Exploring Calculation strategies and place value
	Objectives	•Read, write, order and compare numbers to 100 •Calculate mentally using known facts, round and adjust, near doubles, adding on to find the difference •Derive new facts from a known fact •Read, write, represent,partition, order and compare 3-digit numbers •Find 10 and 100 more or less •Round to the nearest multiple of 10 and 100 •Collect, interpret and present data using charts and tables	•Develop and use a range of mental calculation strategies •Illustrate and explain formal written methods – column method •Measure, draw and compare lengths •Add and subtract lengths •Calculate perimeter	•Understanding multiplicative relationships: commutativity and inverse •Exploring multiplication and division facts for 2, 3, 4, 5, 6, 8 and 10 •Multiply and divide by 10 •Multiply a 2-digit number by a 1-digit number •Divide 2-digit by a 1-digit •Correspondence problems	•Tell, record, write and order the time analogue and digital •12-hour, a.m., p.m. •Measure, calculate and compare durations •Part-whole relationships •Fractions as part of a whole or a whole set and as a number •Add, subtract, compare and order fractions	•Identify angles including right angles and recognise as a quarter of a turn •Identify and draw parallel and perpendicular lines •Draw/make, classify and compare 2-D and 3-D shapes •Measure the perimeter •Read scales with different intervals when measuring mass and volume •Weigh and compare masses and capacities with mixed units •Estimate mass and capacity	•Read scales with different intervals when measuring mass and volume •Weigh and compare masses and capacities with mixed units •Estimate mass and capacity •Representing multiplication and division problems •Solve a onestep problem •Add and subtract mentally •Find 10, 100 and 1000 more or less •Order and compare beyond 1000 •Round numbers
Year 4	Unit	Unit 1: Reasoning with 4 digit numbers. Unit 2: Addition and Subtraction	Unit 3: Multiplication and division Unit 4: Discrete and continuous data	Unit 5: Calculating with multiplication and division Unit 6: Fractions Unit 7: Time	Unit 8: Decimals Unit 9: Area and perimeter	Unit 10 - Solving measure and money Problems Unit 11 - Shape and Symmetry	Unit 12: Position and direction Unit 13: Reasoning with patterns and Sequences. Unit 14: 3D Shape
	Objectives	•4-digit place value. Read, write, represent, order and compare •Find 10, 100 or 1000 more or less •Round numbers to the nearest 10, 100 or 1000 •Select appropriate strategies to add and subtract •Illustrate and explain appropriate addition and subtraction strategies including column method with regrouping	•Identify and explore patterns in multiplication tables including 7 and 9 •Distributive property including multiplying three 1-digit numbers •Mental multiplication and division strategies using place value and known and derived facts •Short multiplication •Read, interpret and construct pictograms, bar charts and time graphs •Compare tables, pictograms and bar charts	•Division using partitioning •Short division •Explore different interpretations and representations of fractions •Equivalent fractions •Represent fractions greater than one as mixed number and improper fractions •Add and subtract fractions with the same denominator including fractions greater than one •Analogue to digital, 12- hour and 24-hour •Convert between units of time	•Decimal equivalents to tenths, quarters and halves •Compare and order numbers with same number of decimal places •Multiply and divide by 10 and 100 including decimals •Perimeter of rectangles and rectilinear shapes •Area of rectangles and rectilinear shapes •Investigate area and perimeter	•Convert units of measure •Select appropriate units to measure •Use strategies to investigate problems: trial and improvement, organising using lists and tables, working systematically •Classify, compare and order angles •Compare and classify 2-D shapes •Identify lines of symmetry	•Describe and plot using coordinates •Describe translations •Roman numerals up to 100 •Place value of other number systems •Number sequences and patterns •Use understanding of 3-D shapes •Identify 3-D shapes from 2-D representations
Year 5	Unit	Unit 1: Reasoning with large whole numbers Unit 2: Integer addition and subtraction Unit 3: Line graphs and timetables	Unit 4: Multiplication and division Unit 5: Perimeter and area	Unit 6: Fractions and decimals Unit 7: Angles	Unit 8: Fractions and percentages Unit 9: Transformations	Unit 10 - Converting Units of Measure Unit 11 - Calculating with whole numbers and decimals	Unit 12: 2D and 3D shape Unit 13: Volume Unit 14: Problem Solving
	Objectives	•Read, write, order and compare numbers up to one million •Round numbers within one million to the nearest multiple of powers of ten •Read Roman numerals up to M •Use rounding to estimate •Use a range of mental calculation strategies to add and subtract integers •Illustrate and explain the written method of column addition and subtraction •Select efficient calculation strategies •Complete, read and interpret data presented in line graphs •Read and interpret timetables including calculating intervals	•Identify multiples and factors •Investigate prime numbers •Multiply and divide by 10, 100 and 1000 (integers) •Multiply and divide using derived facts •Use written methods to multiply and divide •Use a range of mental calculation strategies •Investigate area and perimeter of rectilinear shapes •Estimate area of nonrectilinear shapes	•Read, write, order and compare decimals •Round decimals to the nearest whole number •Represent, identify, name, write, order and compare fractions (including improper and mixed numbers) •Calculate fractions of amounts •Classify, compare and order angles •Measure a draw angles with a protractor •Understand and use angle facts to calculate missing angles	•Add, subtract fractions with denominators that are multiples of the same number •Multiply fractions (and mixed numbers) by a whole number •Explore percentage, decimal, fractions equivalence •Coordinates in all four quadrants •Translation and reflection •Calculate intervals across zero as a context for negative numbers	•Convert between metric units of length, mass and capacity and units of time •Know and use approximate conversion between imperial and metric •Mental strategies to add and subtract involving decimals •Formal written strategies to add, subtract and multiply involving decimals •Multiply and divide decimal numbers by ten, 100 and 1,000 •Derive addition, subtraction and multiplication facts involving decimals	•Classify 2-D shapes and reason about regular and irregular polygons •Properties of diagonals of quadrilaterals •Classify 3-D shapes •2-D representations of 3-D shapes. •Use cube numbers and notation •Estimate volume •Convert units of volume •Negative numbers and calculating intervals across zero •Calculating the mean •Interpret remainders •Investigate numbers: consecutive, palindromic, multiples
Year 6	Unit	Unit 1: Integers and Decimals Unit 2: Multiplication and Division	Unit 3: Calculation Problems Unit 4: Fractions Unit 5: Missing Angles and Lengths	Unit 6: Coordinates and shape Unit 7: Fractions Unit 8: Decimals and measures	Unit 9: Percentages and Statistics Unit 10: Proportion problems	Unit 4: Fractions Unit 1: Integer and decimals Unit 9: Percentage and statistics	Unit 3: Calculation problems Unit 10: Proportion problems Unit 8: Decimals and measures
	Objectives	•Represent, read, write, order and compare numbers up to ten million •Round numbers, make estimates and use this to solve problems in context •Solve multi-step problems involving addition and subtraction •Identify and use properties of number, focusing on primes •Multiply larger integers and decimal numbers using a range of strategies •Divide integers by 1-digit and 2-digit numbers representing remainders appropriately •Illustrate and explain formal multiplication and division strategies	•Understand the use of brackets •Use knowledge of the order of operations to carry out calculations •Generate and describe linear number sequences •Express missing number problems algebraically •Solve equations with unknown values •Deepen understanding of equivalence •Order, simplify and compare fractions, including those greater than one •Recall equivalence between common fractions and decimals •Find decimal quotients using short division •Add and subtract fractions •Compare and classify a range of geometric shapes •Use angle facts to find unknown angles	•Draw a range of geometric shapes using given dimensions and angles •Describe, draw, translate and reflect shapes on a co-ordinate plane •Recognise and construct 3-D shapes •Name and illustrate parts of a circle •Represent multiplication involving fractions •Multiply two proper fractions •Divide a fraction by an integer •Use, read, write and convert between standard units of measures; length, mass, time, money and volume as well as imperial units •Calculate the area of parallelograms and triangles •Calculate, estimate and compare the volume of cuboids	•Calculate and compare percentages of amounts •Connect percentages with fractions •Explore the equivalence of fractions, decimals and percentages •Calculate the mean •Construct and interpret lines graphs and pie charts •Compare pie charts •Use fractions to express proportion •Identify ratio as a relationship between quantities and as a scale factor •Unequal sharing involving ratio	•Deepen understanding of equivalence •Order, simplify and compare fractions, including those greater than one •Recall equivalence between common fractions and decimals •Find decimal quotients using short division •Add and subtract fractions •Represent, read, write, order and compare numbers up to ten million •Round numbers, make estimates and use this to solve problems in context •Solve multi-step problemsinvolving addition and subtraction •Calculate and compare percentages of amounts •Connect percentages with fractions •Explore the equivalence of fractions, decimals and percentages •Calculate the mean •Construct and interpret lines graphs and pie charts •Compare pie charts	•Understand the use of brackets •Use knowledge of the order of operations to carry out calculations •Generate and describe linear number sequences •Express missing number problems algebraically •Solve equations with unknown values •Use fractions to express proportion •Identify ratio as a relationship between quantities and as a scale factor •Unequal sharing involving ratio •Use, read, write and convert between standard units of measures; length, mass, time, money and volume as well as imperial units •Calculate the area of parallelograms and triangles •Calculate, estimate and compare the volume of cuboids