

Maths Progression: EYFS to KS3

Application of Maths skills and processes:

Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
NUMBER AND PLACE VALUE							
<ul style="list-style-type: none"> 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 Count forwards and backwards Estimate and check by counting Count up to six objects Order numbers 1 – 6 Conservation of numbers within six Count up to ten objects Represent, order and explore numbers to ten Count up to 15 objects and recognise different representations Counting and sharing in equal groups Grouping into fives and tens Relationship between grouping and sharing Represent, order and explore numbers to 15 Doubling and halving Compare two amounts Relationship between doubling and halving Estimate and count numbers beyond 20 	<ul style="list-style-type: none"> Represent, compare and explore numbers within 10 then 20 One more and one less Doubling and halving 2-digit numbers to 50 – represent, sequence, explore, compare Count in 2s, 5s and 10s Describe and complete number patterns Use language to quantify and compare difference Read, write, represent, compare and order numbers to 100 One more, one fewer Ten more, ten fewer Identify number patterns 	<ul style="list-style-type: none"> Read, write, represent, partition, compare and order numbers to 100 Explore patterns including odds and evens; tens and ones Represent numbers within 100 in different ways Compare numbers within 100 using symbols Read scales up to 100 	<ul style="list-style-type: none"> 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 Find 10, 100 and 1000 more or less Order and compare numbers beyond 1000 	<ul style="list-style-type: none"> 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 Roman numerals up to 100 Place value of other number systems Number sequences and patterns 	<ul style="list-style-type: none"> 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 Negative numbers and calculating intervals across zero Calculating the mean Interpret remainders Investigate numbers consecutive, palindromic, multiples 	<ul style="list-style-type: none"> 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 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 Calculate the mean 	<ul style="list-style-type: none"> understand and use place value for decimals, measures and integers of any size order positive and negative integers, decimals and fractions; use the number line as a model for ordering of the real numbers; use the symbols =, ≠, <, >, ≤, ≥ use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation property use a calculator and other technologies to calculate results accurately and then interpret them appropriately appreciate the infinite nature of the sets of integers, real and rational numbers round numbers and measures to an appropriate degree of accuracy [for example, to a number of decimal places or significant figures] use approximation through rounding to estimate answers and calculate possible resulting errors expressed using inequality notation $a < x <= b$

Key Vocabulary above, altogether, before, below, between, compare, count, describe, difference, direction, double, equal, fewer, first, half, last, line, more, less, next, number bond, number line, number track, order, pattern, pair, sequence, set, share, short, size, sort, straight, total, zero	Key Vocabulary approximate, chronological, decreasing, digit, estimate, even number, facts, increasing, known fact, left, odd number, partition, place value, quantity, represent, right, rule, sign, symbol, unit	Key Vocabulary Group, ten, altogether, left over, strategy, ones, 1-digit number, 2 digit number, value, worth, partition, represents, ten, twenty, thirty, forty, fifty, sixty, seventy, eighty, ninety, one hundred, compare, greatest, smallest, greater than, less than, is equal to, order, increasing, smaller, decreasing, more, fewer, forwards, backwards, counting, hundreds, tens, ones, place value chart, regrouping, 0-999, dienes, exchange, scale, mark, intervals	Key Vocabulary Number, add, subtract, is equal to, number bond, odd, even, because, known fact, inverse, derive, place value, commutative, commutability, digit, numeral, ones, tens, hundreds, thousands, group of 10, value, greater, more, less, fewer, compare, order, greater than, less than, greatest, least, position, hundreds, part, whole, partition, regroup, greater, less, fewer, fewest, plus, minus, smaller, increase, decrease, rounding, nearest, multiple of 10, largest, smallest, closest, systematic, open-ended, investigate, predict, representations, ascending, descending,	Key Vocabulary Ones, tens, hundreds, thousands, place value, digits, value, known fact, inverse, derive, place value, commutative, commutability, compare, inequalities, greater than, less than, adding, subtracting, regroup, value, multiple, nearest, approximate, round, similarities, scripts, pattern, roman numerals, Arabic numerals, rule,	Key Vocabulary Ones, tens, hundreds, thousands, ten thousands, place value, digits, value, known fact, inverse, derive, place value, place value holder, commutative, commutability, compare, inequalities, greater than, less than, adding, subtracting, regroup, value, multiple, nearest, approximate, round, similarities, divisible, negative, positive, consecutive, decimal point, decimal number, average, mean	Key Vocabulary Integer, numeral, ten thousand, million, ten million, place value, digit, hundred thousand, place holder, less than, greater than, descending, ascending, estimate, round to the nearest, approximately equal to, digit, rounding, magnitude, appropriate, strategy, regrouping, whole, sum, efficient, part, subtract, justify, difference, minus, add, equation, decimal,
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ADDITION AND SUBTRACTION

<ul style="list-style-type: none"> • Explore zero • Explore addition and subtraction • Explore addition as counting on and subtraction as taking away • One more or fewer • Commutativity • Compare two amounts • Relationship between doubling and halving 	<ul style="list-style-type: none"> • Doubling and halving • One more and one less • Investigate number bonds within 20 • Represent and explain addition and subtraction strategies including “make ten” • Commutativity • Addition and subtraction facts • Use known facts to add and subtract • Model, explain and choose addition and subtraction strategies • Count in 2s, 5s and 10s • Illustrate, explain and link addition and subtraction with equations • Apply “make ten” strategy • Use language to quantify and compare difference • One more, one fewer • Ten more, ten fewer • Explore addition and subtraction involving 2-digit numbers and ones 	<ul style="list-style-type: none"> • 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 • Illustrate, represent and explain addition and subtraction involving regrouping including “make ten”, “round and adjust” and near doubles strategies • Apply addition and subtraction strategies to solve equations • Illustrate and explain addition and subtraction using column method 	<ul style="list-style-type: none"> • Calculate mentally using known facts, round and adjust, near doubles, adding on to find the difference • Develop and use a range of mental calculation strategies • Illustrate and explain formal written methods – column method • Add and subtract mentally 	<ul style="list-style-type: none"> • Select appropriate strategies to add and subtract • Illustrate and explain appropriate addition and subtraction strategies including column method with regrouping 	<ul style="list-style-type: none"> • 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 • Mental strategies to add and subtract involving decimals • Formal written strategies to add, subtract and multiply involving decimals 	<ul style="list-style-type: none"> • Solve multi-step problems involving addition and subtraction • Understand the use of brackets • Use knowledge of the order of operations to carry out calculations • Express missing number problems algebraically • Solve equations with unknown values • Add and subtract fractions • Calculate the mean • 	<ul style="list-style-type: none"> • change freely between related standard units [for example time, length, area, volume/capacity, mass] • use scale factors, scale diagrams and maps • express 1 quantity as a fraction of another, where the fraction is less than 1 and greater than 1 • use ratio notation, including reduction to simplest form • divide a given quantity into 2 parts in a given part:part or part:whole ratio; express the division of a quantity into 2 parts as a ratio • understand that a multiplicative relationship between 2 quantities can be expressed as a ratio or a fraction • relate the language of ratios and the associated calculations to the arithmetic of fractions and to linear functions • solve problems involving percentage change, including: percentage
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	<ul style="list-style-type: none"> • Represent and explain addition and subtraction with regrouping • Add equal groups 						<p>increase, decrease and original value problems and simple interest in financial mathematics</p> <ul style="list-style-type: none"> • solve problems involving direct and inverse proportion, including graphical and algebraic representations • use compound units such as speed, unit pricing and density to solve problems
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<p>Key Vocabulary add, addition, difference, double, half, equal, fewer, less, minus, more, number bond, number line, number track, plus, subtract, subtraction, sum, take away, total, zero</p>	<p>Key Vocabulary approximate, digit, estimate, facts, known fact, mental calculation, partition, place value, represent, sign, symbol, unit</p>	<p>Key Vocabulary even, odd, part, whole, ones, tens, partition, part, “if I know.... Then I know...”, number bonds, doubles, near doubles, add, subtract, part-whole model, bar model, known, unknown, value, worth, more, fewer, difference, ‘make ten’, number line, regroup, dienes, multiple of ten, round and adjust, known facts,</p>	<p>Key Vocabulary calculation strategy, part, whole, partition, addition, subtraction, inverse, add, plus, subtract, minus, ‘make 10’, regroup, near-multiple round, adjust, strategy, efficient, near double, inverse, change, difference, adding on, number bond, ‘make 100’ check, bar model, add, plus, sum, digit, place value, multiple, commutative, estimate, round, rounding, nearest multiple of ten, nearest multiple of 100, accurate, accuracy, column method, bar model, regrouping, known, unknown, quantity, adding on, counting back,</p>	<p>Key Vocabulary addition, subtraction, inverse, add, plus, subtract, commutative, ones, tens, hundreds, thousands, sum, difference, known fact, part, whole, partition, regroup, partitioning, column method, strategy, known, unknown, quantity, difference, estimate</p>	<p>Key Vocabulary addition, subtraction, inverse, add, plus, minus, subtract, take away, commutative, ones, tens, hundreds, thousands, ten thousands, hundred thousands, sum, difference, known fact, part, whole, partition, regroup, partitioning, column method, strategy, known, unknown, quantity, difference, estimate, row, column, number bond, fraction, decimal, number line, approximate, error, bar model, efficient, counters, place value chart, derive, written method, algorithm, bar model,</p>	<p>Key Vocabulary Operation, order, context, priority, inverse, ambiguous, order of operation, brackets, expression, linear, express, variable, generalise, algebraic expression, algebra, unknown, systematic, organising, variable, comparing, representation, known,</p>	
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MULTIPLICATION AND DIVISION

<ul style="list-style-type: none"> • Doubling and halving 	<ul style="list-style-type: none"> • Doubling • Link halving to fractions • Count in 2s, 5s and 10s • Share equally into groups • Explore arrays • Add equal groups 	<ul style="list-style-type: none"> • Calculate the times tables of 2, 5 and 10 by skip counting • Relate the 2 times table to doubling • Explore representations of multiplication and division • Commutativity • Multiplication and division facts for 3 and 4 • Relate 4 times table to doubling the 2 times table • Describe, interpret and represent using arrays and bar models • Recognise inverse relationship 	<ul style="list-style-type: none"> • Multiplication and division facts for 2, 3, 4, 5, 6, 8 and 10 • Multiplicative structures: equal groups/parts, change and comparison, correspondence problems • Relationships: commutativity and inverse • Multiply and divide by 10 and 100 • Multiply a 2-digit number by 2, 3, 4, 5 and corresponding division situations • Divide 2-digit numbers by 1-digit numbers • Recall and use multiplication and division facts for 6 and 8 times tables 	<ul style="list-style-type: none"> • Distributive property including multiplying three 1-digit numbers • Mental multiplication and division strategies using place value and known and derived facts • Short multiplication and division • Identify and explore patterns in multiplication tables including 7 and 9 	<ul style="list-style-type: none"> • Identify multiples and factors • Investigate prime numbers • Multiply and divide by 10, 100 and 1000 (integers) • Derived facts • Illustrate and explain formal multiplication and division strategies such as short and long multiplication/division • Use a range of mental calculation strategies • Formal written strategies to add, subtract and multiply involving decimals • Multiply and divide by 10, 100 and 1000 involving decimals • Derive multiplication facts involving decimals 	<ul style="list-style-type: none"> • 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 • Express missing number problems algebraically 	<ul style="list-style-type: none"> • use the 4 operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative • use conventional notation for the priority of operations, including brackets, powers, roots and reciprocals • recognise and use relationships between operations including inverse operations • use integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5 and distinguish
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					<ul style="list-style-type: none"> • Use cube numbers and notation • Interpret remainders 	<ul style="list-style-type: none"> • Solve equations with unknown values • Find decimal quotients using short division • Represent multiplication involving fractions • Multiply two proper fractions • Divide a fraction by an integer • Calculate the mean • 	<p>between exact representations of roots and their decimal approximations</p> <ul style="list-style-type: none"> • interpret and compare numbers in standard form $A \times 10^n$ $1 \leq A < 10$, where n is a positive or negative integer or 0 • change freely between related standard units [for example time, length, area, volume/capacity, mass] • use scale factors, scale diagrams and maps • express 1 quantity as a fraction of another, where the fraction is less than 1 and greater than 1 • use ratio notation, including reduction to simplest form • divide a given quantity into 2 parts in a given part:part or part:whole ratio; express the division of a quantity into 2 parts as a ratio • understand that a multiplicative relationship between 2 quantities can be expressed as a ratio or a fraction • relate the language of ratios and the associated calculations to the arithmetic of fractions and to linear functions • solve problems involving percentage change, including: percentage increase, decrease and original value problems and simple interest in financial mathematics • solve problems involving direct and inverse proportion, including graphical and algebraic representations • use compound units such as speed, unit pricing and density to solve problems
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Key Vocabulary double, half, halve, equal, group, pair, share	Key Vocabulary array, divide, facts, known fact, mental calculation, repeated addition, repeated subtraction, represent, rule, symbol	Key Vocabulary Multiplication, groups of, rows, column, repeated addition, commutative, divide, share, equal, groups, part, whole, value, part, whole, multiply, skip count, twos, double, fives, tens, pattern, multiple, skip counting, number line, bead string, product, array, doubling, division, problem solving, bar model, twice as many, three times as many, half of, one quarter of, one third of	Key Vocabulary Whole, commutative, equal parts, whole, bar model, inverse, lots of, division, multiplication, groups of, array, factor, multiple, a multiple of, combinations, systematic, double, times as many, ten times greater/less, ten times as much, value, related facts, efficient, multiplication, place holder, column, digit, divide, division, times as many, times fewer, times less, times greater, lots of, strategy, derive, known fact, multiplication fact, division fact, product, regroup, ones, tens, share, group, relationship,	Key Vocabulary division, multiplication, groups of, array, factor, multiple, a multiple of, product, divided by, divide, equal groups of, factor, multiplied by, known facts, distributive law, times table, regroup, ones, tens, hundreds, thousands, repeated addition, scaling, share, subtract, derived facts, even, same, patterns, odd, different, digits, representations,	Key Vocabulary Factor, multiple, product, array, row, column, systematic, ordered, organised, Venn diagram, rectangle, define, place value, place value holder, zero, digit, explain, multiply, divide, double, regroup, halve, partition, combine, derive, mental, fact, estimate, round, adjust, flexible, strategy, short multiplication, area model, bar model, grouping, written, part, whole, sharing, equal, interpret, solve, remainder, short, long, increasing, decreasing, systematically, combination, organise, record,	Key Vocabulary Ones, tenths, hundredths, thousands, place value, decimal point, less than, greater than, decimal, multiply, divide, hundred, thousand, number property, square, factor, multiple, prime, cube, common factor, common multiple, composite, multiply, divide, division, product, convert, equivalent, groups, multiplication, inverse, is equal to, rounding, integer, estimate, strategy, estimation, regroup, derived fact, efficient strategy, known fact, partition, dividend, quotient, regrouping, divisor, remainder, fraction, operation, order, context, priority, inverse, ambiguous, order of operation, brackets, expression, linear,
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FRACTIONS, DECIMALS (incl. MONEY) AND PERCENTAGES

<ul style="list-style-type: none"> • Coin recognition and values • Combinations to total 20p • Change from 10p 	<ul style="list-style-type: none"> • Link halving to fractions • Whole and half turns linked to time • Identify and find $\frac{1}{2}$ and $\frac{1}{4}$ of a shape, object and quantity • Apply understanding of fractions to capacity • Name coins and notes and understand their value • Represent the same value using different coins • Find change 	<ul style="list-style-type: none"> • Part-whole relationships • Fractions as part of a whole or a whole set • Relate to division • Equivalent fractions • Recognise coins and notes • Use £ and p accurately • Add and subtract amounts • Calculate change 	<ul style="list-style-type: none"> • Part-whole relationships • Fractions as part of a whole or a whole set and as a number • Add, subtract, compare and order fractions 	<ul style="list-style-type: none"> • Explore different interpretations and representations of fractions • Equivalent fractions • Represent fractions greater than 1 as mixed number and improper fractions • Add and subtract fractions with the same denominator including fractions greater than 1 • Decimal equivalents to tenths, quarters and halves • Compare and order numbers with the same number of decimal places • Multiply and divide by 10 and 100 including decimals • Use strategies to investigate problems: trial and improvement, organising using lists and tables, working systematically 	<ul style="list-style-type: none"> • 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 • Add and 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 • Mental strategies to add and subtract involving decimals • Formal written strategies to add, subtract and multiply involving decimals • Multiply and divide by 10, 100 and 1000 involving decimals 	<ul style="list-style-type: none"> • Multiply larger integers and decimal numbers using a range of strategies • 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 multiplication involving fractions • Multiply two proper fractions • Divide a fraction by an integer • Calculate and compare percentages of amounts • Connect percentages with fractions • Explore the equivalence of fractions, decimals and percentages • Calculate the mean • Use fractions to express proportion 	<ul style="list-style-type: none"> • work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and $\frac{7}{2}$ or 0.375 and $\frac{3}{8}$) • define percentage as 'number of parts per hundred', interpret percentages and percentage changes as a fraction or a decimal, interpret these multiplicatively, express 1 quantity as a percentage of another, compare 2 quantities using percentages, and work with percentages greater than 100% • interpret fractions and percentages as operators
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					<ul style="list-style-type: none"> Derive multiplication facts involving decimals 	<ul style="list-style-type: none"> Identify ratio as a relationship between quantities and as a scale factor Unequal sharing involving ratio 	
<p>Key Vocabulary add, altogether, compare, cost, count, difference, face, group, less, more, fewer, set</p>	<p>Key Vocabulary fraction, half turn, quarter, quarter turn, represent</p>	<p>Key Vocabulary Equal parts, quarter, share, whole, fraction, divide, half, quarter, third, numerator, vinculum, denominator, divide, one half, one third, one quarter, halves, thirds, equal, part, equal, equivalent, is equal to, the same as, Penny, pennies, value, compare, greater, lower, 1p, 2p, 5p, 10p, 20p, 50p, one pound, pounds, pence, coin, notes, how much?, total, altogether, same as, equal to, count up, costs, change, left, addition, fewest, equal, same, spent, all possibilities, systematically</p>	<p>Key Vocabulary Total, bar model, pounds, £, pence, p Part, whole, split, divide, equal, unequal, denominator, numerator, vinculum, quantity, fraction, multiplication, division, ninth, tenth, unit fraction, non-unit fraction, compare, solve, greater, more, less, fewer, greater than, less than,</p>	<p>Key Vocabulary Numerator, denominator, vinculum, whole, divide, explain, part, equal parts, representations, bar model, fraction wall, equivalent, factors, multiple, divide, division, bars, order, greater than, less than, mixed, mixed numbers, improper fractions, addition, minus, subtraction, decimals, decimal point, tens, ones, whole number, round, nearest, tenths, multiple, part – whole, hundredths Cheap, cheapest, expensive, most, least, solutions, organise, combinations</p>	<p>Key Vocabulary Numerator, denominator, vinculum, whole, divide, explain, parts, equal parts, represent, congruent, number line, equivalent, tenth, hundredth, bead string, compare, order, multiple, decimal, place value, place, ones, tenths, hundredths, thousandths, mixed number, improper fraction, whole number, decimal point, greater than, less than, equal to, round, share, group, regroup, fraction, quantity, multiplication, division, product, percent, percentage, cent, proportion,</p>	<p>Key Vocabulary Operation, order, context, priority, inverse, ambiguous, order of operation, brackets, expression, linear, fraction, denominator, numerator, value, equivalent, part whole, equal, multiple, factor, parts, value, common factors, simplest, simplify, prime, form, ascending, descending, greater than, less than, compare, mixed number, improper fraction, common denominator, decimal tenths, divide, quotient, common multiple, simplest form, total, non-unit fraction, unit fraction, scaling, area model, scale factor, fraction of the whole,</p>	

GEOMETRY

<ul style="list-style-type: none"> Comparing objects and sets Ordering objects and sets Recognise, describe, copy and extend colour and size patterns Describe, and sort 3-D shapes Describe position accurately Describe and sort 2-D and 3- D shapes Recognise, complete and create patterns 	<ul style="list-style-type: none"> Identify, describe, sort and classify 2-D and 3- D shapes Investigate repeating patterns Use and follow instructional and positional language Identify and find $\frac{1}{2}$ and $\frac{1}{4}$ of a shape, object and quantity 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Classify, compare and order angles Compare and classify 2- D shapes Identify lines of symmetry Describe and plot using coordinates Describe translations Use understanding of 3- D shapes Identify 3-D shapes from 2-D representations 	<ul style="list-style-type: none"> Classify, compare and order angles Measure and draw angles with a protractor Understand and use angle facts to calculate missing angles Coordinates in all four quadrants Translation and reflection Calculate intervals across zero as a context for negative numbers 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 	<ul style="list-style-type: none"> 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 coordinate plane Recognise and construct 3- D shapes Name and illustrate parts of a circle 	<ul style="list-style-type: none"> derive and apply formulae to calculate and solve problems involving: perimeter and area of triangles, parallelograms, trapezia, volume of cuboids (including cubes) and other prisms (including cylinders) calculate and solve problems involving: perimeters of 2-D shapes (including circles), areas of circles and composite shapes draw and measure line segments and angles in geometric figures, including interpreting scale drawings derive and use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point,
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							<p>bisecting a given angle); recognise and use the perpendicular distance from a point to a line as the shortest distance to the line</p> <ul style="list-style-type: none">• describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles, regular polygons, and other polygons that are reflectively and rotationally symmetric• use the standard conventions for labelling the sides and angles of triangle ABC, and know and use the criteria for congruence of triangles• derive and illustrate properties of triangles, quadrilaterals, circles, and other plane figures [for example, equal lengths and angles] using appropriate language and technologies• identify properties of, and describe the results of, translations, rotations and reflections applied to given figures• identify and construct congruent triangles, and construct similar shapes by enlargement, with and without coordinate grids• apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles• understand and use the relationship between parallel lines and alternate and corresponding angles• derive and use the sum of angles in a triangle and use it to deduce the angle sum in any polygon, and to derive properties of regular polygons• apply angle facts, triangle congruence, similarity and
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							<p>properties of quadrilaterals to derive results about angles and sides, including Pythagoras' Theorem, and use known results to obtain simple proofs</p> <ul style="list-style-type: none"> • use Pythagoras' Theorem and trigonometric ratios in similar triangles to solve problems involving right-angled triangles • use the properties of faces, surfaces, edges and vertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3-D • interpret mathematical relationships both algebraically and geometrically
<p>Key Vocabulary above, below, between, circle, corner, cube, cuboid, curved surface, cylinder, 2-D, 3-D, describe, difference, direction, distance, edge, empty, face, flat, full, group, intersection of sets, length, line, long, rectangle, set, short, side, size, sort, square, straight, surface, tall, triangle, Venn diagram, vertex</p>	<p>Key Vocabulary cone, continuous surface, diagram, left, oblong, position, property, pyramid, quantity, represent, right, sphere</p>	<p>Key Vocabulary Straight, curved, side, vertex, square, triangle, rectangle, rectangle, quadrilateral, circle, pentagon, hexagon, heptagon, octagon, right angle, straight lines, vertices, sides, symmetry, 2D shapes, 3D shapes, reflection, half, exact, identical, sorting, venn diagram, classify, criteria, properties, edge, apex, faces, cone, sphere, cuboid, cube, cylinder, pyramid, length, depth, width, pattern, size, shape, repeating, the same, branching database, base, on, next to, in front of, left, right, behind, under, above, in between, below, about, forwards, backwards, steps, start, end, route. Clockwise, anti-clockwise, quarter, three quarter full turn, rotation</p>	<p>Key Vocabulary Angle, smallest, greater, smaller, greatest, property, description of a turn, 2D, 3D, side, edge, face, vertex, vertices, right angle, turn, complete, whole, quarters, half, halves, obtuse, acute, perpendicular, line, draw, vertical, horizontal, parallel, equal distance, quadrilateral, rectangle, straight, square, vertex, vertices, surface, flat, curved, symmetry, symmetrical, line of symmetry, exactly the same, mirror image, reflective</p>	<p>Key Vocabulary Length, breadth, perimeter, double, centimetres cm, millimetres mm, metres m, width, distance, area, centimetres squared, square centimetres, metres squared, square metre, angle, compare, greater, smaller, order, turn, right angle, acute, obtuse, 2D, 3D, side, vertex, vertices, regular, irregular, hexagon, octagon, parallel, quadrilateral, equal, square, rectangle, trapezium, rhombus, parallelogram, equilateral, right-angled, isosceles, scalene, symmetry, symmetrical Axes, x-axis, y-axis, coordinates, squares, up, down, left, right, units, translation, sequence, pattern,</p>	<p>Key Vocabulary Length, breadth, perimeter, double, centimetres cm, millimetres mm, metres m, width, distance, area, centimetres squared, square centimetres, metres squared, square metre, composite, ruler, perimeter, distance, surface, dimension., square kilometres, rectilinear, non-rectilinear, angle, compare, greater, smaller, order, turn, right angle, acute, obtuse, reflex, degrees, classify, vertex, turn, scale, protractor, straight line, quarter, half, equilateral, right-angled, isosceles, scalene, full-turn, point, triangle, quadrilateral, pentagon, octagon, polygon, side, position, move, up, down, left, right, axes, x-axis, y-axis, coordinates, squares, up, down, left, right, units, translation, congruent, coordinate, grid, translate, horizontal, vertical, mirror line, reflection, mirror image, mirror image, translate, transform, 2D, 3D, perpendicular, regular,</p>	<p>Key Vocabulary Angle, obtuse, right angle, quarter turn, acute, reflex, full turn, half turn, reflex, acute, rotation, full turn, degree, quarter turn, triangle, isosceles, sides, scalene, equal, equilateral, quadrilateral, adjacent, diagonal, parallel, perpendicular, opposite, unequal, angle sum, vertically opposite, polygon, vertex, vertices, internal angle, regular angle, point, position, quadrant, coordinate, axis, axes, translate, congruent, translation, reflection, mirror line, line, segment, 2D shape, 3D shape, edge, pyramid, net, face, prism, apex, centre, diameter, curve, curved, radius, circle, circumference, compound rectilinear shape, area, triangle, parallelogram,</p>	

					irregular, trapezium, rhombus, parallelogram		
DATA							
		<ul style="list-style-type: none"> Represent and interpret: pictograms, block diagrams, tables and tally charts 	<ul style="list-style-type: none"> Collect, interpret and present data using charts and tables 	<ul style="list-style-type: none"> Read, interpret and construct pictograms, bar charts and time graphs Compare tables, pictograms and bar chart 	<ul style="list-style-type: none"> Complete, read and interpret data presented in line graphs Read and interpret timetables including calculating intervals 	<ul style="list-style-type: none"> Calculate the mean Construct and interpret line graphs and pie charts Compare pie charts 	<ul style="list-style-type: none"> describe, interpret and compare observed distributions of a single variable through: appropriate graphical representation involving discrete, continuous and grouped data; and appropriate measures of central tendency (mean, mode, median) and spread (range, consideration of outliers) construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts, pie charts, and pictograms for categorical data, and vertical line (or bar) charts for ungrouped and grouped numerical data describe simple mathematical relationships between 2 variables (bivariate data) in observational and experimental contexts and illustrate using scatter graphs
Key Vocabulary	Key Vocabulary block graph, chart, data, diagram, position, represent, table	Key Vocabulary data, pictogram, table, collect, sort, interpret, tally, scaled, block diagram	Key Vocabulary Pictogram, key, information, data, symbol, stands for, represents, information, table, totals, row, column, twice as many, three times as many, bar chart, axis, axes, scale, increases, tally, table,	Key Vocabulary Pictogram, tally, frequency, table, compare, scale, data, axis, horizontal, vertical, bar chart, time graph,	Key Vocabulary Graph, data, information, axes, increase, decrease, x-axis, y-axis, present, change, time, line graph, estimate, scale, grid line, interval, parallel, approximate, perpendicular, sum, difference, row, compare, title, table, column, convert, unit, measure, pound (lb), foot, feet, inch, pint, chart, schedule, timetable, first, second, third, hour, minute, interval,	Key Vocabulary Graph, axes, data, discrete, cumulative, plot, line, axis, point, interval, continuous, pie chart, segment, fraction, part, set, data, value, percentage, whole, proportion, degrees	
MEASURE AND TIME							
<ul style="list-style-type: none"> Estimate, order compare, discuss and explore 	<ul style="list-style-type: none"> Read, write, and tell the time to o'clock and 	<ul style="list-style-type: none"> Draw and measure length in centimetres 	<ul style="list-style-type: none"> Measure, draw and compare lengths Add and subtract lengths 	<ul style="list-style-type: none"> Analogue to digital, 12-hour and 24-hour 	<ul style="list-style-type: none"> Investigate area and perimeter of rectilinear shapes 	<ul style="list-style-type: none"> Use, read, write and convert between standard units of measures; length, 	<ul style="list-style-type: none"> use standard units of mass, length, time, money and other measures,

<p>capacity, weight and lengths</p> <ul style="list-style-type: none"> • Days of the week, seasons • Sequence daily events 	<p>half past on analogue clock</p> <ul style="list-style-type: none"> • Sequencing daily activities • Whole and half turns linked to time • Compare and measure lengths and mass using cm and kg • Compare capacities, volumes and lengths • Explore litres • Apply understanding of fractions to capacity 	<ul style="list-style-type: none"> • Use q , G and = to compare and order lengths in metres and centimetres • Tell the time on an analogue clock: 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 • Read and measure temperature • Estimate, measure and understand litres and millilitres • Compare and order capacities • Weigh and compare masses in kilograms and grams 	<ul style="list-style-type: none"> • Calculate perimeter • Tell, record, write and order the time analogue and digital • 12 hour, a.m, p.m • Measure, calculate and compare durations • Read scales with different intervals when measuring mass and volume • Weigh and compare masses and capacities with mixed units • Estimate mass and capacity 	<ul style="list-style-type: none"> • Convert between units of time • Calculate and compare perimeter of rectangles and rectilinear figures • Calculate and compare area of rectangles and rectilinear figures • 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 	<ul style="list-style-type: none"> • Estimate area of non-rectilinear shapes • Convert between metric units of length, mass, capacity and units of time • Know and use approximate conversion between imperial and metric units • Use cube numbers and notation • Estimate volume • Convert units of volume 	<p>mass, time, money and volume as well as imperial units</p> <ul style="list-style-type: none"> • Calculate the area of parallelograms and triangles • Calculate, estimate and compare the volume of cuboids • Identify ratio as a relationship between quantities and as a scale factor • Unequal sharing involving ratio 	<p>including with decimal quantities</p> <ul style="list-style-type: none"> •
<p>Key Vocabulary balance, capacity, clock, empty, face, full, measure, less, mass, more, second, sequence, tall, time, weight</p>	<p>Key Vocabulary analogue clock, anticlockwise, chronological, clockwise, estimate, half turn, hour, kilogram, litre, metre, minute, position, Pound (sterling), quarter, quarter turn, scales, standard unit, volume</p>	<p>Key Vocabulary Length, long, longer, longest, short, shorter, shortest, measure, metre, estimate, ruler, centimetre, about, exactly, the same as, difference, known, unknown, whole, part. Time, hour, minute, day, night, morning, afternoon, evening, midday, midnight, hour hand, minute hand, scale, quarter past, half past, O'clock, quarter to, past, to, earlier, later, duration, start, finish, temperature, thermometer, unit of measure, degrees Celsius, heat, hot, cold, warmer, cooler, more than, less than, litre, volume, capacity, estimate, millilitre, equation, kilogram, gram weigh, mass, standard unit, heavier than, lighter, than, as heavy as, multiply, divide,</p>	<p>Key Vocabulary Length, height, width, measure, ruler, to the nearest..., centimetre cm, millimetre mm, accurate, estimate, about, roughly, a bit more than, a bit less than, long, high, wide, longer shorter, equal to =, greater than, less than, perimeter, calculate, total distance, altogether, compare, order, strategy, model, explain, twice, half, further Scale, indicate, indicator, recorded time, hour hand, minute hand, _ minutes to _, _ minutes past _, analogue, nearest minute, division, interval, clockwise, anti-clockwise, a.m., p.m., earlier, later, earliest, latest, chronological order, digital format, colon, :, passed since, format, second, measured time, time interval, stopwatch, stop-clock, timer, schedule, timetable, start time, end time, timeline Indicators, weighing scales, round, rounding to nearest, weight, mass, gram,</p>	<p>Key Vocabulary Time, digital, analogue, second, minute, hour, to, past, 12-hour, 24-hour, years, months, days, weeks Mass, capacity, length, kilograms, grams, litres, millilitres, kilometres, metres, centimetres, millimetres, units, equal, equivalent, pattern, increasing, compare, problem solving, solution, possibilities, systematic, combinations, planning, strategy, trial and improvement, combinations, organise, mass, increasing, decreasing</p>	<p>Key Vocabulary Time, digital, analogue, second, minute, hour, to, past, 12-hour, 24-hour, years, months, days, weeks, fortnight, calendar measure, interval, unit, Mass, capacity, length, kilograms, grams, litres, millilitres, kilometres, metres, centimetres, millimetres, tape measure, ruler, height, distance, convert, equivalent, weighing scale, balance scale, approximately, pound (lb), estimate, height, fraction, proportion, Square number, squared, equal factors, cube number, cubed, product, property, volume, cube, centimetre cubed, cuboid, representation, visualise, imagine, solid, liquid</p>	<p>Key Vocabulary Sequence, increasing, decreasing, decimal, term, rule, position, number line, length, capacity, approximate, scale, unit of measure, mass, volume, estimate, unit of measure, metric, millimetre, kilometre, centimetre, measure, imperial, mile, width, perimeter, convert, height, length, compound rectilinear shape, rectangle, equal, square centimetres, numerically equal, square centimetres, square millimetres, capacity, cubic centimetres, weight, grams, scales, mass, kilograms, area, money, pound, pence, day, hour, minute, second, time, increase, interval, increase, decrease,</p>	

			kilogram, mass, mixed units, heavier, lighter, capacity, volume, litres. Measuring container, millilitres, comparison,				
Adaptations for Maths	<ul style="list-style-type: none"> • Continue to use concrete resources • Before a concept is introduced to the whole class, chosen learners will have increased opportunities to learn new vocabulary and its meaning. • Word problems read to a child. • Adapted resources, which could include plain paper or enlarged square paper, to access set work. • Tactile maths numbers, and other resources a child can manipulate and move around. • A target amount of work to complete • Learners are prepared with countdowns of timers before the end of the task. • Individual task sheets • Malleable media such as clay or air dough • Individual curriculum words/picture banks • Sound buttons to record instructions or word problems. • Check Lists • Timers • Increased scaffolding • Visual resources • Memory aids • Simplified language • Repetition • Working in small groups • Chunked learning 						