Applecroft School Curriculum Map

Maths

	Comparison	Classification	Pattern	Group Recognition / Subitising	Shape / Geometry					
Nursery	Key Knowledge & Skills Compare quantities using language 'more than', 'fewer than' Make comparisons between objects relating to size, length, weight and capacity	Key Knowledge & Skills Experiment with their own symbols and marks as well as numerals	Key Knowledge & Skills Solve real world mathematical problems with numbers up to 5 Describe a familiar route; Discuss routes and locations Talk about and identify the patterns around them Extend and create ABAB patterns Notice and correct an error in a repeating pattern Begin to describe a sequence of events, real or fictional	Key Knowledge & Skills Develop fast recognition of up to 3 objects Recite numbers past 5 Say one number for each item in order: 1,2,3,4,5 Know the last number reached when counting Show finger numbers up to 5 Link numerals and amounts Understand position through words alone	Key Knowledge & Skills Talk about and explore 2D and 3D shapes using informal and mathematical language e.g. sides, comers, straight, flat, round Select shapes appropriately: flat surfaces for building, triangular prism for a roof etc. Combine shapes to make new ones – an arch, a bigger triangle etc.					
	Key Vocabulary More than, fewer, size, weight, length, larger, smaller, exactly.	Key Vocabulary Numerals, symbols, marks.	Key Vocabulary Numbers, in, on, under, up, down, besides, between, in front of, behind, pointy, spotty, clap, stamp, first, then, after, every morning, afternoon, evening, night-time, earlier, later, too late, too son, in a minute.	Key Vocabulary Subitising, sets, counting sequence, forwards, backwards, how many.	Key Vocabulary Circles, rectangles, triangles, cuboids, sides, corners, straight, flat, round, pointy, curvy, same, different, pattern blocks, interlocking shapes.					

	Comparison	Classification	Pattern	Group Recognition / Subitising	Shape / Geometry					
Reception	**Key Knowledge & Skills** Compare numbers – provide collections to compare, starting with a very different number of things use: 'more than', 'less than', 'fewer', 'the same as', 'equal to'. Understand the 'one more than' / 'one less than' relationship between consecutive numbers. Compare length, weight and capacity – make and test predictions -which holds more, this is heavier than that. Comparing objects by length, thickness and weight / mass, using appropriate language to describe and order them. Using counting to compare and finding a precise numerical difference in sets of objects in varied contexts.	**Key Knowledge & Skills** Classifying (grouping) objects using given criteria and their own ideas and thinking about the groups after classification. Counting a set of items accurately, saying how many are in the set and comparing this amount in other sets.	**Key Knowledge & Skills** Continue, copy and create repeating patterns with varying rules including AB, ABB, ABBC. Noticing, describing and extending patterns, including thinking about what part is the repeating unit. Develop spatial thinking and spatial language linked to opposition and direction, in movements and using symbols. Knowing the position of numbers 0-10 and the relationship to other numbers, including whether they are close to 0, 5, 10. Exploring doubling and halving, including solving problems involving doubling and halving. Counting beyond 20, recognising the pattern of the counting system, exploring the value of tens and ones in numbers.	**Key Knowledge & Skills** Subitise – recognise quantities without counting up to 5. Link the number symbol (numeral) with its cardinal number value e.g. dots and numbers on playing cards. Count beyond ten Explore the composition of numbers up to 10. Automatically recall number bonds for numbers 0-5 and some to 10. Subitising numbers up to 5, recognising the amount without counting. Counting reliably, using number in order and one to one correspondence. Developing a deeper understanding that numbers are made up of other numbers and beginning to rehearse number bonds. Exploring what to do when something is missing in a part, whole model; making links to subtraction and finding the difference. Counting confidently to 20, focusing on the numbers 10 – 20, and finding 'one more' and 'one less' than a number. Understanding that numbers are either odd or even, looking at their 'shape' and whether they share fairly into two groups.	**Key Knowledge & Skills** Select, rotate and manipulate shapes to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can e.g. two triangles put together to make a square.					
	Key Vocabulary Compare, different, more than, less than, fewer, the same as, equal to, relationship, consecutive numbers, weight, capacity, prediction, heavier, lighter, length, thickness, order.	**Key Vocabulary** Classify, groups, sets, compare.	**Key Vocabulary** Pattern, repeating, position, doubling, halving.	**Key Vocabulary** Quantities, five / ten frames, count to check, numerals, , dots, matching pairs, tallies, number tracks, calendars, hundred squares, larger, dice, partitioning, recombining, how many, odd, even.	**Key Vocabulary** Pattern, triangle, square, predict, hexagon, 2D, / 3D shapes.					

	Number and Place Value	Addition & Subtraction	Multiplication and Division	Fractions	Measurement	Geometry: Properties of shape	Geometry: position & direction	Statistics	Ratio & Proportion	Algebra
Year 1	Key Knowledge & Skills Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 100 in numerals. Count in multiples of twos, fives and tens Given a number, identify 'one more' and 'one less'. Identify and represent numbers using objects and pictorial representations including the number line. Use the language of 'equal to', 'more than', 'less than' 'fewer', 'most', 'least'. Read and write numbers from 1 to 20 in numerals and words.	Key Knowledge & Skills Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Represent and use number bonds and related subtraction facts within 20. Add and subtract one-digit and two-digit numbers to 20, including zero. Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, & missing number problems such as 7 = □ -	Key Knowledge & Skills Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	Key Knowledge & Skills Recognise, find and name a half as one of two equal parts of an object, shape or quantity. Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	Key Knowledge & Skills Compare, describe and solve practical problems for: lengths and heights e.g. long / short, longer / shorter, tall / short, double / half. Compare, describe and solve practical problems for mass and weight e.g. Heavy / light, heavier than, lighter than. Compare, describe & solve practical problems for capacity & volume e.g. full/ empty, more than, less than, half, half full, quarter, Compare, describe & solve practical problems for time e.g. quicker, slower, earlier, later, measure. Begin to record the following: lengths, heights, mass, weight, capacity, volume, time including hours, minutes, seconds. Recognise and know the value of different denominations of coins and notes, 1p, 2p, 5p, 10p, £1. Sequence events in chronological order using language before, after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. Recognise and use language relating to dates including days of the week, weeks, months & years. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	Key Knowledge & Skills Recognise and name common 2-D and 3-D shapes, including rectangles, squares, circles, triangles, cuboids, cubes, pyramids and spheres.	Key Knowledge & Skills Describe position, direction and movement, including whole, half, quarter and three-quarter turns.			

	Key Vocabulary Count to/ across 100, forwards, backwards, multiples, identify, represent, one more, one less, number line, equal to, more than less than, most, least, fewer, numerals.	**Key Vocabulary** Addition, subtraction, +, -, =, equals, represent, number bonds, facts, solve, one step problems, concrete objects, pictorial representations, missing numbers.	**Key Vocabulary** Solve, one step problems, multiplication, division, arrays.	**Key Vocabulary** Recognise, find, half, equal parts, quantity, quarter.	**Key Vocabulary** Compare, describe, solve, length, height, long, short, longer, shorter, double, half, mass, weight, heavy, light, heavier, lighter, capacity, volume, full, empty, more than, less than, half full, quarter, time, quicker, slower, earlier, later, hours, minutes, seconds, coins, notes, denominations, sequence, chronological, before after, next first, today, yesterday, morning, afternoon, evening, days, week, months, years, half past, o'clock.	**Key Vocabulary** Recognise, common, 2D / 3D shapes, rectangles, squares, circles, triangles, cuboids, cubes, pyramids, spheres.	**Key Vocabulary** Describe position, direction, movement, whole/ half/ quarter/ three quarter turns.			

	Number and Place Value	Addition & Subtraction	Multiplication and Division	Fractions	Measurement	Geometry: Properties of shape	Geometry: position & direction	Statistics	Ratio & Proportion	Algebra
Year 2	**Key Knowledge & Skills** Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward. Recognise the place value of each digit in a two-digit number (tens, ones). Identify, represent and estimate numbers using different representations, including a number line. Compare and order numbers from 0 up to 100 Use <, > and = signs. Read and write numbers to at least 100 in numerals and in words. Use place value and number facts to solve problems.	**Key Knowledge & Skills** Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods. Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones a two-digit number and tens two two-digit numbers adding three one-digit numbers. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.	**Key Knowledge & Skills** Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	**Key Knowledge & Skills** Recognise, find, name and write fractions $^1/_3$, $^1/_4$, $^2/_4$ and $^3/_4$ of a length, shape, set of objects or quantity. Write simple fractions for example, $^1/_2$ of 6 = 3 and recognise the equivalence of $^2/_4$ and $\frac{1}{2}$.	**Key Knowledge & Skills** Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Compare and order lengths, mass, volume/capacity and record the results using >, < and =. Recognise and use symbols for pounds (£) and pence (p). Combine amounts to make a particular value. Find different combinations of coins that equal the same amounts of money. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. Compare and sequence intervals of time. Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day.	**Key Knowledge & Skills** Identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line. Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. Identify 2-D shapes on the surface of 3-D shapes e.g. a circle on a cylinder and a triangle on a pyramid. Compare and sort common 2-D and 3-D shapes and everyday objects.	**Key Knowledge & Skills** Order and arrange combinations of mathematical objects in patterns and sequences. Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).	**Key Knowledge & Skills** Interpret and construct simple pictograms, tally charts, block diagrams and simple tables Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity Ask and answer questions about totalling and comparing categorical data.		
	Key Vocabulary Count in steps, forward, backward, recognise, place value, digit, identify, represent, estimate, different, number line, compare, order, < >, numerals, solve, facts, two digit number.	**Key Vocabulary** Solve, problems, addition, subtraction, concrete objects, pictorial representations, quantities, measures, apply, mental /written methods, recall, facts, fluency, digits, commutative, inverse, check, calculations, missing numbers.	**Key Vocabulary** Recall, multiplication, division, facts, times tables, odd, even, recognise, calculate, statements, x, ÷, =, equals, commutative, solve, problems, arrays, repeated addition, facts, problems.	**Key Vocabulary** Recognise, find, name, write, fractions, 1/3, $\frac{1}{4}$, 2/4, $\frac{3}{4}$, $\frac{1}{2}$ length, shape, set of objects, quantity, simple, equivalence.	**Key Vocabulary** Choose, use, appropriate units, estimate, measure, length, height, m / cm, mass, kg, g, °C, capacity, l, ml, nearest unit, ruler, scales, thermometers, compare, order, volume, < >, recognise, £, pence, combine, amounts, different, combinations, money, solve, simple, problems, change, sequence, intervals, time, tell, minutes, quarter past, hour, hands, clock face, day.	**Key Vocabulary** Identify, describe, properties, 2D shapes, symmetry, vertical, 3D, edges, vertices, faces, surface, circle, cylinder, triangle, pyramid, compare, common.	**Key Vocabulary** Order, arrange, combinations, patterns, sequences, position, direction, movement, straight, line, rotation, turn, right angle, quarter, half, three quarters, clockwise, anticlockwise.	**Key Vocabulary** Interpret, construct, simple, pictograms, tally charts, block diagrams, tables, counting, category, sorting, quantity, totalling, comparing, data.		

	Number and Place Value	Addition & Subtraction	Multiplication and Division	Fractions	Measurement	Geometry: Properties of shape	Geometry: position & direction	Statistics	Ratio & Proportion	Algebra
Year 3	**Key Knowledge & Skills** Count from 0 in multiples of 4, 8, 50 and 100. 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. Identify, represent and estimate numbers using different representations. Read and write numbers up to 1000 in numerals and in words. Solve number problems and practical problems involving these ideas.	**Key Knowledge & Skills** Add and subtract numbers mentally, including a three-digit number and ones, a three-digit number and tens and a three-digit number and hundreds. Add and subtract numbers with up to three digits, using formal written methods of column 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.	**Key Knowledge & Skills** 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 e.g. 12 sweets shared equally between 4 children,; 3 hats and 4 coats – how many different outfits.	**Key Knowledge & Skills** 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, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. Recognise and show, using diagrams, equivalent fractions with small denominators. Add and subtract fractions with the same denominator within one whole (for example, $^5/_7 + ^1/_7 = ^6/_7$). Compare and order unit fractions, and fractions with the same denominators. Solve problems that involve all of the above.	**Key Knowledge & Skills** Measure, compare, add and subtract lengths (m/cm/mm); mass (kg/g) and volume/capacity (l/ml). Measure the perimeter of simple 2-D shapes. Add and subtract amounts of money to give change, using both £ and p in practical contexts. Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. 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 e.g. to calculate the time taken by particular events or tasks.	**Key Knowledge & Skills** Draw 2-D shapes and make 3-D shapes using modelling materials. Recognise 3-D shapes in different orientations and describe them. Recognise that angles are a property of shape or a description of a turn. Identify right angles.	**Key Knowledge & Skills** 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.	**Key Knowledge & Skills** Interpret and present data using bar charts, pictograms and tables. Solve one-step and two-step questions e.g. 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables.		
	Key Vocabulary Count, multiples, find, more, less, given number, recognise, place value, digit, three digit number, hundreds, tens, ones, compare, order, identify, represent, estimate, different, read, write, numerals, solve, number problems, practical problems.	**Key Vocabulary** Add, subtract, mentally, three digit, ones, tens, hundreds, formal written methods, columnar addition / subtraction, estimate, answer, inverse, check, solve, problems, number facts, place value, complex.	**Key Vocabulary** Recall, use, multiplication / division facts, times tables, calculate, statements, two digit, one digit, mental, formal written methods, solve, problems, positive, integer, scaling problems, correspondence problems, n objects, m objects.	**Key Vocabulary** Count, up, down, tenths, recognise, equal parts, one digit, quantities, find, fractions, discrete set, objects, unit fractions, denominators, diagrams, equivalent, add, subtract, compare, order, solve, problems.	**Key Vocabulary** Measure, compare, add, subtract, lengths, (m, cm, mm); mass (kg, g) volume/ capacity (l, ml) measure, perimeter, 2D shapes, add, subtract, money, amounts, £ and p, time, tell, write, analogue clock, Roman numerals, 12-hour, 24-hour, clocks, estimate, accuracy, nearest, minute, record, seconds, hours, a.m., p.m., morning, afternoon, noon, midnight, days, month, year, leap year, duration.	**Key Vocabulary** 2D shapes, 3D shapes, recognise, different, orientation, angles, property.	**Key Vocabulary** Turn, right angles, half, three quarters, identify, greater than, less than, horizontal, vertical, pairs, perpendicular, parallel, lines.	**Key Vocabulary** Interpret, present, data, bar charts, pictograms, tables, solve, one step, two step, how many more, how many fewer, information, presented, scaled.		

	Number and Place Value	Addition & Subtraction	Multiplication and Division	Fractions	Measurement	Geometry: Properties of shape	Geometry: position & direction	Statistics	Ratio & Proportion	Algebra
Year 4	Key Knowledge & Skills Count in multiples of 6, 7, 9, 25 and 1000 Find 1000 more or less than a given number Count backwards through zero to include negative numbers Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) Order and compare numbers beyond 1000 Identify, represent and estimate numbers using different representations Round any number to the nearest 10, 100 or 1000 Solve number and practical problems that involve all of the above and with increasingly large positive numbers 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	Key Knowledge & Skills Add and subtract numbers with up to 4 digits using the formal written methods of column 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	Key Knowledge & Skills 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 Recognise and use factor pairs and commutativity in mental calculations Multiply two-digit and three-digit numbers by a one-digit number using formal written layout 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	Key Knowledge & Skills Recognise and show, using diagrams, families of common equivalent fractions – connect hundredths to tenths and place value and decimal measure Count up and down in hundredths; Recognise that hundredths arise when dividing an object by a 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 Add and subtract fractions with the same denominator Recognise and write decimal equivalents of any number of tenths or hundredths Recognise and write decimal equivalents to $^1/_4$; $^1/_2$; $^3/_4$ 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 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 Solve simple measure and money problems involving fractions and decimals to two decimal places.	Key Knowledge & Skills Convert between different units of measure e.g. kilometre to metre; hour to minute Measure and calculate the perimeter of a rectilinear figure, including squares, in centimetres and metres Find the area of rectilinear shapes by counting squares Estimate, compare and calculate different measures, including money in pounds and pence Read, write and convert time between analogue and digital 12 and 24-hour clocks solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	Key Knowledge & Skills Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes Identify acute and obtuse angles 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	Key Knowledge & Skills 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	Key Knowledge & Skills Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs		

	Key Vocabulary Count, multiples, find, more, less than a given number, backwards, zero, negative numbers, recognise, place value, four digit numbers, thousands, hundreds, tens, ones, order, compare, beyond, identify, represent, estimate, round, nearest, solve, problems, positive, Roman numerals,	**Key Vocabulary** Add, subtract, 4 digits, formal written methods, columnar, addition, subtraction, estimate, inverse, operation, check, calculation, solve, two step,	**Key Vocabulary** Recall, multiplication, division, facts, times tables, place value, derived facts, multiply, divide, mentally, recognise, factor pairs, commutatively, formal written layout, distributive law, integer, n objects, m objects	**Key Vocabulary** Recognise, show, diagrams, equivalent, fractions, count up, count down, hundredths, divide, solve, problems, calculate, quantities, non-unit fractions, whole number, add, subtract, denominator, same, tenths, round, decimals, one decimal place, compare, 2 decimal places, measure, money,	**Key Vocabulary** Covert, different, units, measure, km, m, hour, minute, calculate, perimeter, squares, cm, area, rectilinear shapes, estimate, compare, pounds, money, pence, time, analogue, digital, 12/24 hour clocks, solve, problems, seconds, years, months, weeks, days	**Key Vocabulary** Compare, classify, geometric shapes, quadrilaterals, triangles, properties, sizes, identify, acute, obtuse, angles, order, right angles, lines of symmetry, 2D shapes, different, orientations,	**Key Vocabulary** Describe, positions, 2D grid, coordinates, quadrant, movements, between, positions, translations, plot, specified points, polygon	**Key Vocabulary** Interpret, present, discrete, continuous, data, methods, bar charts, time graphs, solve, comparison, sum, difference, information, pictograms, tables		

	Number and Place Value	Addition & Subtraction	Multiplication and Division	Fractions	Measurement	Geometry: Properties of shape	Geometry: position & direction	Statistics	Ratio & Proportion	Algebra
Year 5	**Key Knowledge & Skills** Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit. Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero. Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000. Solve number problems and practical problems that involve all of the above. Read Roman numerals to 1000 (M). Recognise years written in Roman numerals.	**Key Knowledge & Skills** Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). Add and subtract numbers mentally with increasingly large numbers. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	**Key Knowledge & Skills** Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 19. 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. Multiply and divide numbers mentally drawing upon known facts. Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Recognise and use square numbers and cube numbers, & the notation for squared (^{2}) & cubed (^{3}). Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	**Key Knowledge & Skills** Compare and order fractions whose denominators are all multiples of the same number. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. 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, $^2/_5 + {}^4/_5 = {}^6/_5 = 1^1/_5$]. Add and subtract fractions with the same denominator and multiples of the same number. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. Read and write decimal numbers as fractions e.g. $0.71 = {}^{71}/_{100}$. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Round decimals with two decimal places to the nearest whole number and to one decimal place. Read, write, order and compare numbers with up to three decimal places. Solve problems involving number up to three decimal places. .	**Key Knowledge & Skills** Convert between different units of metric measure e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre. Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. Calculate and compare the area of rectangles, including squares, using standard units, square centimetres (cm^2) & square metres (m^2). Estimate the area of irregular shapes. Estimate volume e.g. using 1 cm^3 blocks to build cuboids, including cubes, and capacity e.g. using water. Solve problems involving converting between units of time. Use all four operations to solve problems involving measure e.g. length, mass, volume, money. Using decimal notation including scaling.	**Key Knowledge & Skills** Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. Know angles are measured in degrees. Estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees (°). Identify angles at a point and one whole turn (total 360°), angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) and other multiples of 90°. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	**Key Knowledge & Skills** 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	**Key Knowledge & Skills** Solve comparison, sum and difference problems using information presented in a line graph. Complete, read and interpret information in tables, including timetables.		

Year 5			Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	Recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred". Write percentages as a fraction with denominator 100, and as a decimal. Solve problems which require knowing percentage and decimal equivalents of $^1/_2$, $^1/_4$, $^1/_5$, $^2/_5$, $^4/_5$ and those with a denominator of a multiple of 10 or 25					
	Key Vocabulary Read, write, order, compare, numbers, million, value, each digit, count, forwards, backwards, interpret, negative numbers, positive, zero, round, nearest, solve, problems, Roman Numerals, recognise.	**Key Vocabulary** Add, subtract, whole numbers, 4 digits, formal written methods, columnar addition and subtraction, mentally, rounding, check, answers, calculations, determine, accuracy, solve, multi-step problems, operations.	**Key Vocabulary** Identify, multiples, factors, factor pairs, common factors, prime numbers, composite (non-prime), multiply, one/ two digit numbers, divide, known facts, short division, interpret, remainders, decimals, square n numbers, cube numbers, combination, equals, scaling, simple.	**Key Vocabulary** Compare, order, fractions, denominators, multiples, identify, name, equivalent, represented, tenths, hundredths, mixed numbers, convert, statements, add, subtract, proper fractions, decimal numbers, nearest, round, read, write, per cent, °, parts per hundred.	**Key Vocabulary** Convert, between, different, metric, measure, km, m, cm, mm, g, kg, l, ml, equivalence, imperial units, inches, [pounds, pints, calculate, perimeter, composite rectilinear shapes, squares, square cm, square m, estimate, area, irregular shapes, volume, cuboids, cubes, capacity, units of time, operations, length, mass, money, decimal notation, scaling.	**Key Vocabulary** Identify, 3D shapes, cubes, cuboids, 2D, angles, measured, degrees, estimate, acute, obtuse, reflex, degrees °, whole turn, 360°, straight line, , ½ turn, 180°, multiples of 90°, properties, rectangles, related facts, missing lengths, regular, irregular polygons, reasoning, sides.	**Key Vocabulary** Identify, describe, represent, position, shape, reflection, translation.	**Key Vocabulary** Solve, comparison, sum, difference, problems, information, line graph, interpret, tables, times tables.		

	Number and Place Value	Addition & Subtraction	Multiplication and Division	Fractions	Measurement	Geometry: Properties of shape	Geometry: position & direction	Statistics	Ratio & Proportion	Algebra
Year 6	Key Knowledge & Skills Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit Round any whole number to a required degree of accuracy Use negative numbers in context, and calculate intervals across zero Solve number and practical problems that involve all of the above	Key Knowledge & Skills 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 long division Interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context Perform mental calculations, including with mixed operations and large numbers Identify common factors, common multiples and prime numbers Use their knowledge of the order of operations to carry out calculations involving the four operations Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Solve problems involving addition, subtraction, multiplication and division	Key Knowledge & Skills Identify common factors, common multiples and prime numbers Use their knowledge of the order of operations to carry out calculations involving the four operations Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Solve problems involving addition, subtraction, multiplication and division Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy	Key Knowledge & Skills Use common factors to simplify fractions; use common multiples to express fractions in the same denomination Compare and order fractions, including fractions >1 Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $^1/_4 \times {}^1/_2 = {}^1/_8$] Divide proper fractions by whole numbers [for example, $^1/_3 \div 2 = {}^1/_6$] associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $^3/_8$] Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places Multiply one-digit numbers with up to two decimal places by whole numbers Use written division methods in cases where the answer has up to two decimal places Solve problems which require answers to be rounded to specified degrees of accuracy	Key Knowledge & Skills Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places Convert between miles and kilometres Recognise that shapes with the same areas can have different perimeters and vice versa Recognise when it is possible to use formulae for area and volume of shapes Calculate the area of parallelograms and triangles Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units e.g. mm^3 and km^3	Key Knowledge & Skills Draw 2-D shapes using given dimensions and angles Recognise, describe and build simple 3-D shapes, including making nets Compare and classify geometric shapes based on their properties and sizes Find unknown angles in any triangles, quadrilateral and regular polygons Illustrate and name parts of circles, including radius, diameter and circumference Know that the diameter is twice the radius Recognise angles where they meet at a point, are on a straight line, or are vertically opposite Find missing angles	Key Knowledge & Skills Describe positions on the full coordinate grid (all four quadrants) Draw and translate simple shapes on the coordinate plane Reflect simple shapes in the axes	Key Knowledge & Skills Interpret and construct pie charts and line graphs and use these to solve problems Calculate and interpret the mean as an average	Key Knowledge & Skills 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 e.g. of measures 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	Key Knowledge & Skills Use simple formulae Generate and describe linear number sequences Express missing number problems algebraically Find pairs of numbers that satisfy an equation with two unknowns Enumerate possibilities of combinations of two variables

		Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy		Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.						
	Key Vocabulary Reade, write, order, compare, value, each digit, round, whole number, degree of accuracy, negative numbers, intervals, zero, solve, problems.	**Key Vocabulary** Multi digit numbers, 4 digits, two digit, formal written method, interpret, remainders, mental calculations, mixed operations, addition, subtraction, multi-step.	**Key Vocabulary** Multiply, multiplication, divide, long division, written methods, interpret, remainders, mental calculations, mixed operations, common factors / multiples, Estimation, multi-step.	**Key Vocabulary** Common factors, simplify, common multiples, denomination, same, compare order, add, subtract, mixed numbers, equivalent, proper fractions, simplest form, value, identify, digit, three decimal places, solve, problems, accuracy, recall, percentages, decimals.	**Key Vocabulary** Solve problems, calculation, conversion, units of measure, decimal notation, three decimal places, convert, standard units, length mass, volume, time, miles, km, recognise, shapes, areas, same, perimeters, formulae, volume, parallelograms, estimate, cubes, cuboids, standard units.	**Key Vocabulary** 2D shapes, dimensions, angles, recognise, describe, 3D shapes, nets, compare, classify, geometric shapes, properties, angles, triangles, quadrilaterals, regular polygons radius, diameter, circumference, straight line, vertical.	**Key Vocabulary** Describe, positions, coordinate, four quadrants, translate, reflect, axes.	**Key Vocabulary** Interpret, construct, pie charts, line graphs, solve problems, calculate, interpret mean, average.	**Key Vocabulary** Solve, problems relative, sizes, quantities, values, integer, multiplication / division facts, calculation, percentages, scale factor, unequal sharing, grouping, fractions, multiples.	**Key Vocabulary** Simple formulae, generate, describe, linear number sequences, equation, variables, enumerate.