

Maths Progression Map

		Key Stage 1		Key Stage 2			
National Curriculum							
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number							
5 R's	<u>Readiness:</u> listen carefully to instructions and talk about what they see when counting on and back.	<u>Resourcefulness:</u> choose maths equipment (with support) and being to explain why they have chosen them.	<u>Reflectiveness:</u> reflect on the method they have used.	<u>Resourcefulness:</u> being to independently pick appropriate maths apparatus/ methods to support their number investigations.	<u>Reflectiveness:</u> reflect on the method they have used and suggest an alternative method with which to check their work.	<u>Resilience:</u> when things go wrong consider why and make suggestions for improvements/ different methods to use.	<u>Responsibility:</u> children begin to plan and take responsibility for finding the answer to their own calculations including suggesting their preferred method.
Counting	<u>3/4 Year Old</u> <ul style="list-style-type: none">• Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').• Recite numbers past 5.• Say one number for each item in order: 1,2,3,4,5.• Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). <u>Reception Age:</u> <ul style="list-style-type: none">• Count objects, actions and sounds	Children can: <ul style="list-style-type: none">• 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	Children can: <ul style="list-style-type: none">• count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward	Children can: <ul style="list-style-type: none">• count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number.	Children can: <ul style="list-style-type: none">•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	Children can: <ul style="list-style-type: none">• 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	Children can: <ul style="list-style-type: none">• use negative numbers in context, and calculate intervals across zero

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	<ul style="list-style-type: none"> Count beyond ten. Verbally count beyond 20, recognising the pattern of the counting system. 						
Place value	<p><u>3/4 Year Old</u></p> <ul style="list-style-type: none"> Show 'finger numbers' up to 5. <p><u>Reception Age:</u></p> <ul style="list-style-type: none"> Subitise. Compare numbers <p><u>ELG:</u></p> <ul style="list-style-type: none"> Subitise (recognise quantities without counting) up to 5. 	Children can:	<p>Children can:</p> <ul style="list-style-type: none"> recognise the place value of each digit in a two-digit number compare and order numbers from 0 up to 100; use <, > and = signs 	<p>Children can:</p> <ul style="list-style-type: none"> recognise the place value of each digit in a three-digit number compare and order numbers up to 1000 	<p>Children can:</p> <ul style="list-style-type: none"> recognise the place value of each digit in a four-digit number order and compare numbers beyond 1000 round any number to the nearest 10, 100 or 1000 	<p>Children can:</p> <ul style="list-style-type: none"> read, write, order and compare numbers up to 1 000 000 and determine the value of each digit round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 	<p>Children can:</p> <ul style="list-style-type: none"> 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
Representing number	<p><u>3/4 Year Old</u></p> <ul style="list-style-type: none"> Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. <p><u>Reception Age:</u></p> <ul style="list-style-type: none"> Link the number symbol (numeral) with its cardinal number value. Explore the composition of numbers to 10. 	<p>Children can:</p> <ul style="list-style-type: none"> identify and represent numbers using objects and pictorial representations including the number line, & use language of: equal to, more than, less than (fewer), most, least read and write numbers from 1 to 20 in numerals and words read, write and interpret 	<p>Children can:</p> <ul style="list-style-type: none"> identify, represent and estimate numbers using different representations, including the number line read and write numbers to at least 100 in numerals and in words 	<p>Children can:</p> <ul style="list-style-type: none"> identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words 	<p>Children can:</p> <ul style="list-style-type: none"> identify, represent and estimate numbers using different representations 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 	<p>Children can:</p> <ul style="list-style-type: none"> read Roman numerals to 1000 (M) and recognise years written in Roman numerals recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) 	

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	<p><u>ELG:</u></p> <ul style="list-style-type: none"> • Have a deep understanding of number to 10, including the composition of each number. 	<p>mathematical statements involving addition (+), subtraction (–) and equals (=) signs</p>					
<p>Number facts (+ -)</p>	<p><u>Reception Age:</u></p> <ul style="list-style-type: none"> • Understand the 'one more than/one less than' relationship between consecutive numbers. • Automatically recall number bonds for numbers 0-5 and some to 10. <p><u>ELG:</u></p> <ul style="list-style-type: none"> • Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. • Compare quantities up to 10 in different contexts, 	<p>Children can:</p> <ul style="list-style-type: none"> • given a number, identify one more and one less • represent and use number bonds and related subtraction facts within 20 	<p>Children can:</p> <ul style="list-style-type: none"> • use place value and number facts to solve problems recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 				

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	recognising when one quantity is greater than, less than or the same as the other quantity. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.						
Mental (+ -)		Children can: • add and subtract one-digit and two-digit numbers to 20, including zero	Children can: • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: TU+U, TU+T, TU+TU and U+U+U • show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	Children can: • add and subtract numbers mentally, including: HTU+U, HTU+T and HTU+H		Children can: • add and subtract numbers mentally with increasingly large numbers	Children can: • perform mental calculations, including with mixed operations and large numbers
Written (+ -)				Children can: • add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	Children can: • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition	Children can: • add and subtract whole numbers with more than 4 digits, including using formal written methods	

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					and subtraction where appropriate		
Problems (+ -)	<p><u>3/4 Year Old</u></p> <ul style="list-style-type: none"> Solve real world mathematical problems with numbers up to 5. 	<p>Children can:</p> <ul style="list-style-type: none"> solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$. 	<p>Children can:</p> <ul style="list-style-type: none"> solve problems with addition and subtraction, using concrete, pictorial and abstract representations recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. 	<p>Children can:</p> <ul style="list-style-type: none"> 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 	<p>Children can:</p> <ul style="list-style-type: none"> 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 	<p>Children can:</p> <ul style="list-style-type: none"> 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 	
Number Facts (x, ÷)			<p>Children can:</p> <ul style="list-style-type: none"> recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers 	<p>Children can:</p> <ul style="list-style-type: none"> recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables 	<p>Children can:</p> <ul style="list-style-type: none"> recall multiplication and division facts for multiplication tables up to 12×12 	<p>Children can:</p> <ul style="list-style-type: none"> 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 	<p>Children can:</p> <ul style="list-style-type: none"> identify common factors, common multiples and prime numbers
Mental (x, ÷)			<p>Children can:</p> <ul style="list-style-type: none"> calculate mathematical statements for 	<p>Children can:</p> <ul style="list-style-type: none"> write and calculate mathematical 	<p>Children can:</p> <ul style="list-style-type: none"> use place value, known and derived facts to multiply 	<p>Children can:</p> <ul style="list-style-type: none"> multiply and divide numbers mentally drawing 	<p>Children can:</p> <ul style="list-style-type: none"> perform mental calculations, including with

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			<p>multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs</p> <ul style="list-style-type: none"> • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot 	<p>statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental methods</p>	<p>and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers</p> <ul style="list-style-type: none"> • recognise and use factor pairs and commutativity in mental calculations 	<p>upon known facts</p> <ul style="list-style-type: none"> • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 	<p>mixed operations and large numbers</p>
Written (\times , \div)				<p>Children can:</p> <ul style="list-style-type: none"> • progress to formal written methods calculations as above 	<p>Children can:</p> <ul style="list-style-type: none"> • multiply two-digit and three-digit numbers by a one-digit number using formal written layout 	<p>Children can:</p> <ul style="list-style-type: none"> • 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 • 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 	<p>Children can:</p> <ul style="list-style-type: none"> • 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, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context • divide numbers up to 4 digits by a two-

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							digit number using the formal written method of short division where appropriate, interpreting remainders according to context
Problems (\times , \div)		Children can: <ul style="list-style-type: none"> • 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. 	Children can: <ul style="list-style-type: none"> • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts 	Children can: <ul style="list-style-type: none"> • 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. 	Children can: <ul style="list-style-type: none"> • 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 	Children can: <ul style="list-style-type: none"> • solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes • 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 	Children can: <ul style="list-style-type: none"> • 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
Recognising fractions	Share parts of wholes e.g. toast, pizza	Children can: <ul style="list-style-type: none"> • recognise, find, name and write a half as one of two equal parts of an 	Children can: <ul style="list-style-type: none"> • recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a 	Children can: <ul style="list-style-type: none"> • count up and down in tenths; • recognise that tenths arise from 	Children can: <ul style="list-style-type: none"> • count up and down in hundredths; • recognise that 	Children can: <ul style="list-style-type: none"> • recognise mixed numbers and improper fractions and convert from 	Review and consolidate from previous years

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		object, shape or quantity • recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	length, shape, set of objects or quantity	dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	hundredths arise when dividing an object by one hundred and dividing tenths by ten.	one form to the other and write mathematical statements > 1 as a mixed number	
Comparing fractions	Share parts of wholes e.g. toast, pizza – compare who has the most/least			Children can: • compare and order unit fractions, and fractions with the same denominators • recognise and show, using diagrams, equivalent fractions with small denominators	Children can: • recognise and show, using diagrams, families of common equivalent fractions	Children can: • 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	Children can: • use common factors to simplify fractions • use common multiples to express fractions in the same denomination • compare and order fractions, including fractions > 1
Finding fractions of quantities				Children can: • 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	Children can: • 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		
Calculating with fractions			Children can: • write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the	Children can: • add and subtract fractions with the same denominator within one whole	Children can: • add and subtract fractions with the same denominator	Children can: • add and subtract fractions with the same denominator and denominators	Children can: • add and subtract fractions with different denominators and

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			equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	[for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]		that are multiples of the same number • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	mixed numbers, using the concept of equivalent fractions • multiply simple pairs of proper fractions, writing the answer in its simplest form • divide proper fractions by whole numbers
Decimals as fraction amounts					Children can: • recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ • 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	Children can: • read and write decimal numbers as fractions	Children can: • associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction • identify the value of each digit in numbers given to three decimal places
Ordering decimals					Children can: • 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	Children can: • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • round decimals with two decimal places to the nearest whole	

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						number and to one decimal place • read, write, order and compare numbers with up to three decimal places	
Calculating with decimals							Children can: • multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places • multiply one-digit number with up to two decimal places by whole numbers • use written division methods in cases where the answer has up to two decimal places
Percentages						Children can: • recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal	Children can: • solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison
Fraction problems				Children can: • solve problems using all fraction knowledge	Children can: • solve simple measure and money problems involving fractions	Children can: • solve problems involving number up to three decimal places • solve problems	Children can: • solve problems which require answers to be rounded to specified degrees of

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					and decimals to two decimal places	which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25	accuracy <ul style="list-style-type: none"> • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
Ratio and proportion							Children can: <ul style="list-style-type: none"> • 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 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.
Algebra							Children can: <ul style="list-style-type: none"> • use simple formulae • generate and describe linear number sequences • express missing number problems algebraically

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							<ul style="list-style-type: none"> • find pairs of numbers that satisfy an equation with two unknowns • enumerate possibilities of combinations of two variables.
Vocabulary	<p>More than, fewer than, even, odd, greater, less, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 (numerals and words), one more, one less, Share, equal, half, fair</p>	<p>Ten more/less, digit, numeral, figure(s), compare, (in) order/a different order, size, value, between, halfway between, above, below, tens, ones, number bonds, number line, add, more, plus, make, sum, total, altogether, inverse, double, near double, equals, is the same as (including equals sign), difference between, subtract, take away, minus</p> <p>How many more to make ...?, How many more is ... than ...?, How much more is ...?, How many fewer is ... than ...?, How much less is ...?</p> <p>Once, twice, three, five times, multiple of times</p>	<p>Numbers to one hundred, hundreds, partition, recombine, more/less, three quarters, one third, a third, equivalence, equivalent, predict, describe the pattern, describe the rule, find, find all, find different, investigate</p>	<p>Numbers to one thousand, column addition and subtraction, product, multiples of four, eight, fifty and one hundred, scale up, numerator, denominator, unit fraction, non-unit fraction, compare and order, tenths</p>	<p>Tenths, hundredths, decimal (places), round (to nearest), thousand more/less than, negative integers, count through zero, Roman numerals I to C, multiplication facts (up to 12x12), division facts, inverse, derive, equivalent decimals and fractions</p>	<p>Powers of 10, efficient written method, factor pairs, composite numbers, prime number, prime factors, square number, cubed number, formal written method, proper fractions, improper fractions, mixed numbers, percentage, half, quarter, fifth, two fifths, four fifths, ratio, proportion</p>	<p>Numbers to ten million, order of operations, common factors and common multiples, degree of accuracy, simplify, linear number sequence, substitute, variables, symbol, known values</p>

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		Multiply, multiply by, repeated addition, array, row, column, double, halve, share, share equally, group in pairs, threes, etc., equal groups of, divide, divided by, left over					
Measurement							
5 R's	<u>Resilience:</u> children continue to try even when things go wrong and test out different ways of measuring using non-standard units.	<u>Readiness:</u> children show they are listening and looking attentively to make careful observations of to compare measurements.	<u>Resourcefulness:</u> children use different apparatus of their choosing in order to measure and sort items.	<u>Responsibility:</u> children can begin to explain why they have chosen a particular method or unit of measure to make comparisons.	<u>Resilience:</u> children can develop their understanding through making mistakes and develop their understanding of the relationship between different measurements.	<u>Responsibility:</u> children can explain why they have chosen a particular way of measuring/ recording results and suggest which method is the most appropriate depending on the question.	<u>Readiness:</u> Children demonstrate their ability to work autonomously by explaining what they are trying to find out and how they will do it and picking an appropriate measurement.
Measures	<u>3/4 Year Old</u> <ul style="list-style-type: none"> Compare quantities using language: 'more than', 'fewer than'. <u>Reception Age:</u> <ul style="list-style-type: none"> Compare length, weight and capacity 	Children can: <ul style="list-style-type: none"> compare, describe and solve practical problems for: length/height, weight/mass, capacity/volume & time measure and begin to record length/height, weight/mass, capacity/volume & time 	Children can: <ul style="list-style-type: none"> choose and use appropriate standard units to estimate and measure length/ height (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels 	Children can: <ul style="list-style-type: none"> measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) 	Children can: <ul style="list-style-type: none"> convert between different units of measure estimate, compare and calculate different measures, including money in pounds and pence 	Children can: <ul style="list-style-type: none"> convert between different units of metric measure understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints estimate volume and capacity 	Children can: <ul style="list-style-type: none"> 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

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			<ul style="list-style-type: none"> • compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$ 				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 <ul style="list-style-type: none"> • convert between miles and kilometres
Measurement	<u>3/4 Year Old</u> <ul style="list-style-type: none"> • Make comparisons between objects relating to size, length, weight and capacity. <u>Reception Age:</u> <ul style="list-style-type: none"> • Compare length, weight and capacity 			Children can: <ul style="list-style-type: none"> • measure the perimeter of simple 2-D shapes 	Children can: <ul style="list-style-type: none"> • measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • find the area of rectilinear shapes by counting squares 	Children can: <ul style="list-style-type: none"> • measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes 	Children can: <ul style="list-style-type: none"> • 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 cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units.
Money		Children can: <ul style="list-style-type: none"> • recognise and know the value of 	Children can: <ul style="list-style-type: none"> • recognise and use symbols for pounds 	Children can: <ul style="list-style-type: none"> • add and subtract amounts of money 		Children can: <ul style="list-style-type: none"> • use all four operations to solve 	

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		different denominations of coins and notes	(£) and pence (p); combine amounts to make a particular value <ul style="list-style-type: none"> • 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 	to give change, using both £ and p in practical contexts		problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling	
Time	<u>3/4 Year Old</u> <ul style="list-style-type: none"> • Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' 	Children can: <ul style="list-style-type: none"> • sequence events in chronological order using language • recognise and use language relating to dates, including days of the week, weeks, months and years • tell the time to the hour and half past the hour and draw the hands on a clock face to show these times 	Children can: <ul style="list-style-type: none"> • 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 	Children can: <ul style="list-style-type: none"> • 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 	Children can: <ul style="list-style-type: none"> • Convert between different units of measure (e.g. Hours to minutes) • 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 	Children can: <ul style="list-style-type: none"> • solve problems involving converting between units of time 	

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				of seconds in a minute and the number of days in each month, year and leap year compare durations of events			
Vocabulary	Longer, shorter, bigger, smaller, first, then, heavy, light, full, empty	Time, days of the week, seasons, day, week, month, year, weekend, birthday, holiday, morning, afternoon, evening, night, midnight, bedtime, dinnertime, playtime, today, yesterday, tomorrow, before, after, next, last, now, soon, early, late, quick, quicker, quickest, quickly, fast, faster, fastest, slow, slower, slowest, slowly, old, older, oldest, new, newer, newest, takes longer, takes less time, hour, o'clock, half past, clock, watch, hands, how long ago?, How long will it be to ... ?, How long will it take to ... ?, How often?, always, never, often, sometimes, usually, once, twice, first, second,	Quarter past/to, metres, kilometres, grams, kilograms, millimetres, litres, temperature, degrees	Leap year, twelve-hour/twenty-four-hour clock, Roman numerals I to XIII	Convert	Volume, imperial units, metric units	Cubic, parallelogram, formulae

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		<p>third, etc., estimate, close to, about the same as, just over, just under, too many, too few, not enough, enough, length, width, height, depth, long, longer, longest, short, shorter shortest, tall, taller, tallest, high, higher, highest, Low, wide, narrow, deep, shallow, thick, thin, far, near, close, metre, ruler, metre stick, how much?, how many?, money, coin, penny, pence, pound, price, cost, buy, sell, spend, spent, pay, change, dear(er), costs more, costs less, cheaper, costs the same as, total, whole, equal parts, four equal parts, one half, two halves, a quarter, two quarters</p>					
Geometry							
5 R's	<p><u>Resourcefulness:</u> children can choose and begin to sort different simple 2d shapes based on</p>	<p><u>Reflectiveness:</u> to reflect on the differences between 2d and 3d shapes.</p>	<p><u>Readiness:</u> demonstrate concentration and good listening skills</p>	<p><u>Reflectiveness:</u> after looking closely at different lines children discuss</p>	<p><u>Readiness:</u> children make close and careful observations about the</p>	<p><u>Resourcefulness:</u> children carefully select equipment to support their investigation of</p>	<p><u>Resilience:</u> when things go wrong consider why and make suggestions</p>

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	similarities/ differences.		whilst making observations about shapes and position.	what they know about different shapes and angles.	classification of: shapes, angles and position.	regular and irregular shapes, angles and turns.	for improvements.
Shape vocabulary	<p><u>3/4 Year Old</u></p> <ul style="list-style-type: none"> Combine shapes to make new ones – an arch, a bigger triangle etc. Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like ‘pointy’, ‘spotty’, ‘blobs’ etc. Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. <p><u>Reception Age:</u></p> <ul style="list-style-type: none"> Select, rotate and manipulate shapes to develop spatial reasoning skills. Continue, copy and create repeating patterns. 	<p>Children can:</p> <ul style="list-style-type: none"> recognise and name common 2-D shapes (e.g. Square, circle, triangle) recognise and name common 3-D shapes (e.g. Cubes, cuboids, pyramids & spheres) 	<p>Children can:</p> <ul style="list-style-type: none"> use vocabulary related to shape (vertices, edges, faces, symmetry) 	<p>Children can:</p> <ul style="list-style-type: none"> identify horizontal and vertical lines and pairs of perpendicular and parallel lines 			<p>Children can:</p> <ul style="list-style-type: none"> illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius

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<p>Properties of 2D shapes</p>	<p><u>3/4 Year Old</u></p> <ul style="list-style-type: none"> • Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. <p><u>Reception Age:</u></p> <ul style="list-style-type: none"> • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. 		<p>Children can:</p> <ul style="list-style-type: none"> • identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. • compare and sort common 2-D and 3-D shapes and everyday objects. 	<p>Children can:</p> <ul style="list-style-type: none"> • draw 2-D shapes 	<p>Children can:</p> <ul style="list-style-type: none"> • compare and classify geometric shapes, including quadrilaterals and triangles, based on properties and sizes • 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. 	<p>Children can:</p> <ul style="list-style-type: none"> • 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. 	<p>Children can:</p> <ul style="list-style-type: none"> • draw 2-D shapes using given dimensions and angles compare and classify geometric shapes based on their properties and sizes
<p>Properties of 3D shapes</p>	<p><u>3/4 Year Old</u></p> <ul style="list-style-type: none"> • Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. • Select shapes appropriately: flat 		<p>Children can:</p> <ul style="list-style-type: none"> • 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. compare and sort common 2-D and 3-D shapes and everyday objects. 	<p>Children can:</p> <ul style="list-style-type: none"> • make 3-D shapes using modelling materials • recognise 3-D shapes in different orientations and describe them 		<p>Children can:</p> <ul style="list-style-type: none"> • identify 3-D shapes, including cubes and other cuboids, from 2-D representations 	<p>Children can:</p> <ul style="list-style-type: none"> • recognise, describe and build simple 3-D shapes, including making nets • find unknown angles in any triangles, quadrilaterals, and regular polygons

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	<p>surfaces for building, a triangular prism for a roof etc.</p> <p><u>Reception Age:</u></p> <ul style="list-style-type: none"> • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. 						
Angles				<p>Children can:</p> <ul style="list-style-type: none"> • recognise angles as a property of shape or a description of a turn • identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn • identify whether angles are greater or less than right angle 	<p>Children can:</p> <ul style="list-style-type: none"> • identify acute and obtuse angles and compare and order angles up to two right angles by size 	<p>Children can:</p> <ul style="list-style-type: none"> • 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°); at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) • identify other multiples of 90° 	<p>Children can:</p> <ul style="list-style-type: none"> • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
Position and direction	<p><u>3/4 Year Old</u></p> <ul style="list-style-type: none"> • Understand position through words alone – for example, “The bag 	<p>Children can:</p> <ul style="list-style-type: none"> • describe position, direction and movement, including whole, half, quarter and 	<p>Children can:</p> <ul style="list-style-type: none"> • order and arrange combinations of mathematical objects in patterns and sequences. 		<p>Children can:</p> <ul style="list-style-type: none"> • describe positions on a 2-D grid as coordinates in the first quadrant • describe 	<p>Children can:</p> <ul style="list-style-type: none"> • identify, describe and represent the position of a shape following a reflection or 	<p>Children can:</p> <ul style="list-style-type: none"> • describe positions on the full coordinate grid (all four quadrants) • draw and

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	is under the table,” – with no pointing. • Describe a familiar route. • Discuss routes and locations, using words like ‘in front of’ and ‘behind’.	three-quarter turns.	• 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 $\frac{3}{4}$ turns		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	translation, using the appropriate language, and know that the shape has not changed	translate simple shapes on the coordinate plane, and reflect them in the axes.
Vocabulary	Behind, in front of, under, pattern, shape, flat, bigger, smaller, triangle, square, rectangle, circle, round, straight, corners	Before, after, beside, next to, opposite, apart, between, middle, edge, centre, corner, direction, journey, left, right, up, down, forwards, backwards, sideways, across, close, far, near, along, through, to, from, towards, away from, movement, slide, roll, turn, whole turn, half turn, stretch, bend, corner (point, pointed), face, side, edge, make, build, draw	Rotation, clockwise, anticlockwise, straight line, ninety degree turn, right angle, size, bigger, larger, smaller, symmetrical, line of symmetry, fold, match, mirror line, reflection, pattern, repeating pattern	Greater/less than ninety degrees, orientation (same orientation, different orientation), horizontal, perpendicular and parallel lines	Co-ordinate, translate, quadrant, X-axis, Y-axis, perimeter, area, quadrilaterals, triangles, right, acute and obtuse angles	Reflex angle, dimensions, regular and irregular polygons	Four quadrants (for co-ordinates), vertically opposite (angles), circumference, radius, diameter
Statistics							
5 R's	<u>Readiness:</u> listen carefully to instructions and	<u>Resourcefulness:</u> using equipment/ pictures children	<u>Reflectiveness:</u> reflect on what they can see in a	<u>Readiness:</u> Make careful observations	<u>Responsibility:</u> children begin to plan and take	<u>Resilience:</u> when things go wrong consider why and	<u>Resourcefulness:</u> pick appropriate apparatus to test

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	talk about what they see. (show of hands and responding to questions like 'which flavour ice cream do you like best')	can show how popular something is as a whole class activity. (Show of hands)	pictogram and make simple conclusions verbally.	about the data that they investigate showing they are focussed and record their results in a suitable way.	responsibility for their own mathematical investigations including suggesting their own method for displaying their results.	be able to identify mistakes in work that is not their own and be able to explain what has gone wrong systematically.	a theory and generate a hypothesis. Record their data and draw comparisons and conclusions.
Interpreting data	<u>3/4 Year Old</u> Experiment with their own symbols and marks, as well as numerals.		Children can: • interpret and construct simple pictograms, tally charts, block diagrams and simple tables	Children can: • interpret and present data using bar charts, pictograms and tables	Children can: • interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	Children can: • complete, read and interpret information in tables, including timetables	Children can: • interpret and construct pie charts and line graphs calculate and interpret the mean as an average
Extract info from data			Children can: • 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	Children can: • solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables	Children can: • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	Children can: • solve comparison, sum and difference problems using information presented in a line graph	Children can: • use pie charts and line graphs to solve problems
Vocabulary			Count, tally, sort, vote, graph, block graph, pictogram, represent, group, set, list, table, label, title, most popular, most common,	Chart, bar chart, frequency table, Carroll diagram, Venn diagram, axis, axe	Continuous data, line graph		Mean, pie chart, construct

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			least popular, least common				
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