Mathematics

NB- EYFS statements from EYFS Framework

	Number and place value				
	Vocabulary	Counting	More and less	Place value representation and language	Non-statutory
YEAR R	numbers (numerals), number names, amount (quantity), show (represent), objects, count, order, more, less, fewer, same, group, move.	Children in reception will be learning to: - Count objects, actions and sounds. - Count beyond ten. Numerical Patterns ELG - Verbally count beyond 20, recognising the pattern of the counting system. - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.	Children in reception will be learning to: - Compare numbers. - Understand the 'one more than/one less than' relationship between consecutive numbers. - Compare quantities up to 10 in different contexts, 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.	Children in reception will be learning to: - Subitise. - Link the number symbol (numeral) with its cardinal number value. Number ELG - Have a deep understanding of number to 10, including the composition of each number. - Subitise (recognise quantities without counting) up to 5.	n/a
YEAR 1	count, forwards, backwards, numbers (numerals), order, multiples, more, less, fewer, most, least, equal, show (represent), number line, first, second, third…, amount (quantity), pattern, object, shape, odd, even	count forwards and backwards to 100 count forwards and backwards in: 2s to 20, 5s to 50, 10s to 100	given a number, identify one more and one less for any number up to 100 use the language of: equal to, more than, less than (fewer), most, least	identify and represent numbers using objects and pictorial representations including the number line and magic buttons	pupils practise counting and ordering (for example, first, second, third…), and to indicate a quantity develop their recognition of patterns in the number system (for example, odd and even numbers) they recognise and create repeating patterns with objects and with shapes.

YEAR 2	count, forwards, backwards, numbers numerals, compare, order, more (with >symbol), less (with< symbol), equal =, show (identify and represent), estimate, number line, place value, digit, tens and ones (units), multiples, partition	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward read and write numbers to at least 100 in numerals and in words	compare and order numbers from 0 up to 100; use <, > and = signs	identify, represent and estimate numbers using different representations, including the number line recognise the place value of each digit in a two-digit number (tens, ones) use place value and number facts to solve problems	they count in multiples of three to support their later understanding of a third. pupils should partition numbers in different ways to support subtraction. They begin to understand zero as a place holder.

	Number - Calculation			
	Addition and Subtraction Vocabulary	Addition and Subtraction	Multiplication and Division Vocabulary	Multiplication and Division
YEAR R	add/adding, addition, plus, and, count on, more, take away (subtract), count back, equal, total, how many, altogether	Children in reception will be learning to: - Explore the composition of numbers to 10. - Automatically recall number bonds for numbers 0–5. - Have a deep understanding of number to 10, including the composition of each number. - 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.	doubling, same number twice, total amount, halving, equal sharing	Children in reception will be learning to: - Explore the composition of numbers to 10. - Have a deep understanding of number to 10, including the composition of each number. - 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. - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.
YEAR 1	add/adding, addition (+), plus, count on, more, subtraction (-), take away, count back, less, equals (=) signs, total, altogether, show (represent), number bonds, number facts, one digit, two digit, missing number problems, number line, number sentence	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	doubling, same number twice, total amount, lots of, groups of, sets of, times, multiply, multiplication, array, repeated addition, equal sharing between, sharing, halving, equal sharing, divide, division	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. Non Statutory Through grouping and sharing small quantities, pupils begin to understand: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities.

		solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ – 9		They make connections between arrays, number patterns, and counting in twos, fives and tens.
YEAR 2	add/adding, addition (+), plus, count on, more, subtraction (-), take away, count back, less, equals (=) signs, total, altogether, sum, difference, show (represent), number bonds, number facts, one digit, two digit, calculations, number sentence, missing number problems, number line, mental methods, written methods, recall (remember), commutative, inverse, tens, ones, units, columns	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 solve missing number problems. Non Statutory- Pupils extend their understanding of the language of addition and subtraction to include sum and difference Recording addition and subtraction in columns supports place value and prepares for formal written methods with larger numbers.	lots of, groups of, sets of, times, multiply, multiplication, multiple, array, repeated addition, equal sharing between, sharing, grouping, halve, half, divide, division, divided by, remainder	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. Non Statutory Pupils continue to practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables. Pupils develop efficient mental methods, for example, using commutativity and associativity (for example, 4 × 12 × 5 = 4 × 5 × 12 = 20 × 12 = 240) and multiplication and division facts (for example, using 3 × 2 = 6, 6 ÷ 3 = 2 and 2 = 6 ÷ 3) to derive related facts (for example, 30 × 2 = 60, 60 ÷ 3 = 20 and 20 = 60 ÷ 3).

	Number- Fractions			
	Vocabulary	Halves/Thirds	Quarters	Equivalence
YEAR R	twos, equal sharing, share equally, same, groups, half, halving, two groups, total amount	12. Numerical Patterns ELG: Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.		
YEAR 1	half, halving, two equal parts/groups, quarters, four equal parts/groups, object, shape, amount (quantity), equal sharing, share equally, same, groups, total amount	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.	
YEAR 2	fraction, half, halving, two equal parts/groups, quarters, four equal parts/groups, thirds, three equal parts/groups, object, shape, amount (quantity), length, equal sharing, share equally, same (equivalence), groups, total amount	recognise, find, name and write fractions one third of a length, shape, set of objects or quantity write simple fractions for example, one half of 6 = 3	recognise, find, name and write fractions one quarter two quarters three quarters of a length, shape, set of objects or quantity	recognise the equivalence of one half and two quarters Non statutory guidance- Pupils should count in fractions up to 10, starting from any number and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line (for example, $1\frac{1}{4}$, $1\frac{2}{4}$ (or $1\frac{1}{2}$), $1\frac{3}{4}$, 2). This reinforces the concept of fractions as numbers and that they can add up to more than one.

	Measurement		
	Length, weight, capacity	Money	Time
YEAR R	Children in reception will be learning to: Compare length, weight and capacity.		
Vocabulary	measure, long, longer, longest, short, shorter, shortest, tall, taller, tallest, heavy, heavier, heaviest, light, lighter, lightest, weigh, full, half full, empty, container, balance scales	money, shop/ shopping, pay, buying, selling, coins, 1p 2p, pence, shape, sides, size, shopping till	time, days of the week: Monday, Tuesday…, day, week, birthday, holiday, morning, afternoon, evening, night, today, yesterday, tomorrow, before, after, next, last, now, soon, early, late, takes longer, takes less time, hour, o'clock, clock, hands
YEAR 1	compare, describe and solve practical problems for: - lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] - mass/weight [for example, heavy/light, heavier than, lighter than] - capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] measure and begin to record the following: - lengths and heights - mass/weight - capacity and volume	recognise and know the value of different denominations of coins and notes	compare, describe and solve practical problems for: - time [for example, quicker, slower, earlier, later] measure and begin to record the following: - time (hours, minutes, seconds) sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] 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.
Vocabulary	measure, long, longer, longest, short, shorter, shortest, tall, taller, tallest, heavy, heavier, heaviest light, lighter, lightest, weigh, full, half full, nearly full, nearly empty, length, height, size, compare, ruler, non-standard units, standard units, cm, balance scales, weight, equals, container, capacity, liquid	money, pay, buying, selling, coin names- 1p 2p 5p 10p 20p 50p £1 £2, pence, pounds, bronze, silver, gold, shape, sides, size, notes £5 £10 £20 £50, amount, value, total	time, order, days of the week: Monday, Tuesday…, day, week, weekday, weekend, month, year: January, February…, seasons: spring, summer, autumn, winter, morning, afternoon, evening, night, today, yesterday, tomorrow, before, after, next, first, last now, soon, early, late, takes longer, takes less time, hour, minutes, seconds, o'clock, half past, clock, watch, hands, fast, faster, fastest, quick, quicker, quickest, quickly, slow, slower, slowest, slowly, old, older, oldest, new, newer, newest
YEAR 2	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,	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	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

	using rulers, scales, thermometers and measuring vessels compare and order lengths, mass, volume/capacity and record the results using >, < and =	solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	know the number of minutes in an hour and the number of hours in a day.
Vocabulary	As per Year 1 plus- gram (*g*), kilogram (*kg*), far, further, furthest, near, close, centimetre (*cm*), metre (*m*), ruler, metre stick, tape measure, holds, contains, litre (*l*), half-litre, millilitre (*ml*), container, Temperature, Hot, Cold, °C, Degrees, Centigrade, Thermometer, Positive, Negative	money, pay, buying, selling, coin names- 1p 2p 5p 10p 20p 50p £1 £2, pence, pounds, bronze, silver, gold, shape, sides, size, notes £5 £10 £20 £50, amount, value, total, combine, combinations, change, equal	As per Year 1 plus- 24 hours in a day, 60 minutes in an hour, 60 seconds in a minute, o'clock, half past, clock, watch, hands, fast, faster, fastest, quick, quicker, quickest, quickly, slow, slower, slowest, slowly, old, older, oldest, new, newer, newest, o'clock, half past, quarter to, quarter past, digital/analogue clock, clock face watch, timer, compare, sequence, order, five minute intervals, intervals of time, passing of time

	Geometry- Properties of shape		
	Vocabulary	2D shape	3D shape
YEAR R	shape, flat, solid, round, curved, straight, pattern, repeating, circle, triangle, square, rectangle, star, heart, cube, pyramid, sphere, cone	Children in reception will be learning to: - Select, rotate and manipulate shapes in order 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. - Continue, copy and create repeating patterns.	As per 2D
YEAR 1	shape, flat 2-D, solid 3-D, rectangle, square, circle, triangle, hexagon, pentagon, size, orientation, turned, similar, same, different, cube, cuboid , pyramid - square based, triangular based, sphere, cylinder, cone, regular, irregular, sides- straight, curved, corners, faces- flat, curved, point	recognise and name common 2-D and 3-D shapes, including: ⍰⍰2-D shapes [for example, rectangles (including squares), circles and triangles] Non Statutory- They recognise these shapes in different orientations and sizes, and know that rectangles, triangles, are not always similar to each other.	recognise and name common 2-D and 3-D shapes, including: ⍰⍰3-D shapes [for example, cuboids (including cubes), pyramids and spheres]. Non Statutory- They recognise these shapes in different orientations and sizes, and know that cuboids and pyramids are not always similar to each other.

YEAR 2	shape, flat 2-D, solid 3-D, rectangle, square, circle, triangle, hexagon, pentagon, diamond, kite, quadrilateral, size, orientation, turned, similar, same, different, cube, cuboid, cylinder, cone, pyramid- square based, triangular based prism- rectangular, triangular, hexagonal sphere, hemisphere, regular, irregular, symmetry, surface, faces- flat, curved, sides- straight, curved, vertices- corners, edges, apex, point	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid] compare and sort common 2-D and 3-D shapes and everyday objects.	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 [for example, a circle on a cylinder and a triangle on a pyramid] compare and sort common 2-D and 3-D shapes and everyday objects.

	Geometry- Position and direction			
	Vocabulary	Language	Pattern	Turns
YEAR R	position, over, under, above, below, top, bottom, side, on, in, outside, inside, in front, behind, front, back, before, after, beside, next to, opposite, between, middle, edge, direction up, down, forwards, backwards, sideways, close, far, near, to, from, movement, slide, roll, turn, stretch, bend, pattern, repeating pattern	**Children in reception will be learning to:** Select, rotate and manipulate shapes in order to develop spatial reasoning skills.	**Children in reception will be learning to:** - Continue, copy and create repeating patterns.	**Children in reception will be learning to:** - Select, rotate and manipulate shapes in order to develop spatial reasoning skills.
YEAR 1	position vocab from Year R, plus- direction, movement, turn, whole turn, half turn	describe position, direction and movement, including whole, half, quarter and three-quarter turns.	*From Number Objectives*- They recognise and create repeating patterns with objects and with shapes.	describe position, direction and movement, including whole, half, quarter and three-quarter turns.

	quarter turn, three quarter turn, clockwise, anti-clockwise			
YEAR 2	position vocab from Year R, plus- direction, movement, rotation, straight, turn, whole turn, half turn, quarter turn, three quarter turn, clockwise, anti-clockwise, right angle, journey, route, left, right, up, down, higher, lower, rotation, orientation, pattern, sequence	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).	order and arrange combinations of mathematical objects in patterns and sequences (inc. different orientations)	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).

	Statistics	
	Vocabulary	**Content**
YEAR R	count, group, set, same, different, most, less/least, smallest, biggest	No objectives in EYFS
YEAR 1	count, sort, group, set, same, different, most, less/least, smallest, biggest, venn diagram, criteria, count, tally, sort, group, set, list, same, different, table , chart, most popular, most common, least popular, least common	No curriculum objectives for mathematics **Non-statutory content linked to Science** Compare, contrast, identify and group **Non-statutory content linked to Science** Pupils might work scientifically by: making tables and charts about the weather
YEAR 2	statistics, data, information, count, sort, group, set, same, different, most, less/least, smallest, biggest, venn diagram, carroll diagram, row, column, top, bottom, first, second, criteria, count, tally, sort, vote, graph, block graph, tally chart, table, represent, interpret, construct, make, group, set, same, different, list, table, label, title, most popular, most common, least popular, least common, questions, categories, quantity, amount, total, compare	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.