Maths Curriculum skills, knowledge and vocabulary map

MATHS VOCABULARY MAP			
Strand	**EYFS**	**Year One**	**Year Two**
Place Value and Number	Number, zero, one, two, three… to twenty, zero, ten, twenty, none, how many? Count, more, less, many, few, pattern, pair, greater, more, larger, bigger, less, fewer, smaller, greatest, most, biggest, largest, least, fewest, smallest, compare, order, size, first, last, before, after, next, between, half-way between, above / below.	Equal to, more than, less than (fewer), most, least, one more and one less, ordering (for example, first, second, third…), counting and comparing numbers up to 100, tens, ones, part/whole, count on, count back	Alternative, strategy, digits, numerals, partition
Addition and Subtraction	Add, more, make, total, altogether, one more, Subtract, take (away), leave, how many are left? How many have gone? One less.	Put together, add, altogether, total, take away, distance between, difference between, more than and less than. how many more…? How many more is…than..? how much more is…? how many fewer/less is…than…? Difference between, number bonds, equals, sign, is the same as, half, plus, total, addition, balance, double, sign, sum, number sentence	Sum, commutative, inverse, greater than, minus, leave, decrease, left, remain, less than,
Multiplication and Division	Number patterns, doubling, count, answer,	Multiplication and division; doubling numbers and	Operation, remainder, repeated addition,

	sign, equal, sharing, share equally, one each, two each, group, shape, whole, pattern, puzzle, count out, share out, left, same, number/s, different number/s	quantities; and finding simple fractions of objects, numbers and quantities, part/whole, halves, half, equally, array, share, equally, set of, equal groups of, times, multiply, divide, times, equal parts, divided by, number sentence, operation	repeated subtraction, multiple of, set of, lots of
Fractions	halves, equal, sharing, share equally, one each, two each, group, cut, same as	Half, quarter, equal, part, whole, equal to, whole/part	Third, three quarters, equivalent,
Statistics			Data, pictograms, tally charts, block diagrams and simple tables, organise, compare
Shape	Shape, pattern, flat, curved straight, round, hollow, solid, corner, point, pointed, sort, make, build, draw, 2d shapes (circle, square, rectangle, triangle) size, bigger, larger, flat, similar, smaller, repeating pattern, match, differences, the same as...	Recognise and name common 2-D and 3-D shapes, including: cuboids, cubes, pyramids and spheres, face, side, edge, vertices	Pupils handle and name a wide variety of common 2-D and 3-D shapes including: quadrilaterals and polygons, and cuboids, prisms and cones
Position and Direction	Behind, next to, on top, below, ahead, above, in front, underneath etc...	Describe position, direction and movement, including whole, half, quarter and	Right angle (for quarter, half and three-quarter turns),

		three-quarter turns. direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside	clockwise and anticlockwise.
Measurement	Measure, size, compare, guess, estimate, enough, too much, too little, too many, too few, long, short, tall, high, low, thick, thin, longer, shorter, taller, higher, full, half full, empty, holds, containers, money, coin, total, buy, morning, afternoon, evening, night, midnight, today, yesterday, tomorrow,	o'clock, half past, mass, weight, volume and capacity, before and after, next, first, morning, afternoon and evening, use language relating to dates, day, days of the week, month/names of months, year, before, after, next, last, now, soon, early, late, longest, shortest, tallest, highest, heavier, lighter, heaviest, lightest, balance, scales, weight, length, width, height, depth, wide, narrow deep, shallow	Analogue, digital, equivalent, five to/five past, quarter to, quarter past, notes, total, change.

SKILLS AND KNOWLEDGE MAP – small steps		
EYFS	**Year One**	**Year Two**
Number and Place Value		

EYFS

Numbers: Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

Year One

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, and 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

Year Two

Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward

Recognise the place value of each digit in a two-digit number (tens, ones)

Identify, represent and estimate numbers using different representations, including the 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.

Know the names of numbers up to 5, then 10, then to 20.	Children can sort objects accurately	Count objects to 100 and read/write numbers in numerals and words
Count backwards from 20.	Children can count objects accurately	Represent numbers to 100
Count numbers of objects/people across environments (e.g. cars in the carpark, people in the park).	Children can read and write numbers from 0 – 10 first, then 0 – 20	Use tens and ones with a part/whole model
Give and take from groups of objects (cardinal value, focus on the stopping number).	Children can count one more/one less	Use tens and ones when adding and subtracting
Subertise (e.g. groups of objects, face on a dice).	Children have one-to-one correspondence to start to compare groups	Compare objects
Match numbers to small collection of objects.	Compare groups using mathematical language	Compare numbers using the < > = symbols
Recognise object have been re-ordered, taken away or is the same.	Compare different numbers up to 100	Order objects and numbers
	Children can count up to 100, forwards and backwards	Count in 2s, 5s and 10s confidently
	Recognise < > = symbols and use the corresponding mathematical language	Count in steps of 3s confidently
	Use a number line accurately	Start at different points when counting in 2,5 and 10
	See ten as a whole unit and understand ten ones are needed to make a whole 10	Recognise the patterns when counting in steps of 2,5 and 10
	Represent different amounts and numbers using object and pictures	Show the value of a 2 – digit number in different ways
	Count in 2s, 5s and 10s.	Show 2 -digit numbers by using different combinations of tens and ones
		Solve problems by using the value of digits to support them

Addition and Subtraction

EYFS

Numbers: Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

Year One

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, and missing number problems.

Year Two:

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:

- two-digit number and 1s
- a two-digit number and 10s
- 2 two-digit numbers
- adding 3 one-digit numbers

Show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 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.

See small groups of objects within larger collections. Use 'number talk' when discussing the composition of number. Partition a number into two smaller groups of the same or different amounts and know there are	Use a part/whole model to solve problems Use +/- symbols correctly Know and use fact families and use addition/subtraction facts to 10 Use systematic methods to find number bonds within 10 and up to 20	Know and use number bonds to and between 0 – 20 Check their calculations, using efficient strategies and explain their reasoning Compare number sentences Understand and use related facts

different ways to partition the same number. Sing number songs to 5 and 10, counting forwards and backwards. Compare different amounts using the associated language (bigger/smaller/equal to/more/less).	Compare number bonds Use and understand relevant mathematical language Find a part of a whole number Add by counting on Compare number sentences Addition and subtraction number sentences that cross ten. Subtraction – how many are left, crossing out. Subtraction – finding the difference. Subtraction - finding a part of a whole. Use objects to represent the strategies used to solve problems. Use pictures to represent the strategies used to solve problems Use simple maths stories to show mathematical thinking.	Know their bonds (in 10s) to 100 Add and subtract ones Know 10 more/10 less Add and subtract 10 Add a 2 – digit numbers (adding tens/ones) not and then crossing tens. Subtract a 2 – digit numbers (subtracting tens/ones) not and then crossing tens. Add 3 digit numbers (using efficient strategies, number bonds, doubles etc..) Record their methods using objects, pictures and informal jottings (e.g. blank number lines) Be able to jump in whole numbers of 2, 3, 5 and 10 when solving problems. Understand and be able to explain the inverse and how number sentences are related to each other Understand and be able to explain the commutative law by using related number sentences, number facts and demonstrate through pictures and abstract representations.

Multiplication and Division

EYFS

Numbers: Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

Year One

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.

Year Two

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.

See groups consist of equal numbers of objects/numbers/people. Check groups have equal numbers by matching them on a 1-1 basis.	Count in 2, 5 and 10s Make equal groups of 2, 5 and 10 Understand and demonstrate that equal groups are all the same Understand that equal groups can be made with concrete, pictorial and abstract representations Add equal groups together Make arrays using objects and begin to draw them Make doubles using objects, drawings and know their related multiples Make equal groups – grouping Make equal groups – sharing Make doubles	Recognise and make equal groups using a range of concrete, abstract and pictorial representations Use equal groups to solve problems Add equal groups and represent their thinking using different resources Multiply using x symbol Divide using the division symbol Work out multiplication and division numbers sentences from pictures and word problems Use arrays to solve different multiplication and division problems.

		Use arrays to show the inverse and commutative law
		Know the 2/5/10 times table and use these facts to solve problems
		Make equal groups – sharing
		Make equal groups – grouping
		Dividing by 2, 5 and 10
		Know and talk about odd and even numbers using mathematical reasoning and related vocabulary
		Represent commutative law through a range of CPA and explain through mathematical reasoning.

Fractions

EYFS:

Numbers: Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

Year One:

Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity

Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity

Year Two:

recognise, find, name and write fractions 1/3, 1/4, 2/4 and ¾ of a length, shape, set of objects or quantity
write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and ½.

To know that objects and numbers can be doubled and this increases their size. To understand that groups can be equal in size. To know that objects and numbers can be halved and this decreases their size.	Find a half of shapes or objects Find a quarter of shapes of objects Half a quantity Find a quarter of a quantity Use pictures and then number sentences Know that a half is one of two equal parts of a whole Know that a quarter is one o four equal parts of a whole	Make equal parts of a shape, length or object to represent a half, quarter, three quarters and a third. Recognise and find a half, quarter, three quarters and a third Know the equivalence of ½ and 2/4 and use this understanding when solving problems. Count in fractions

Statistics

Year Two
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.

		Make a tally chart Draw pictograms (1-1) Interpret pictograms (1-1) Draw pictograms (2,5 and 10) Interpret pictograms (2,5 and 10) Block diagrams

Shape

EYFS
Shape, space and measures: Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

Year One
Recognise and name common 2-D and 3-D shapes, including: ⬜ - 2-D shapes [for example, rectangles (including squares), circles and triangles] - 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].

Year Two

Identify and describe the properties of 2- D shapes, including the number of sides and line 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 [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.		
Name simple 2d shapes and talk about their properties. Put together jigsaws. Sort shapes by different criteria. Rotate shapes. Recognise the reflection of shapes, objects and people. Know about, recognize and create repeated patterns (AB, ABA, ABBA). Continue a pattern that has been started. Copy a pattern. Initiate a pattern.	Recognise, name and label 3d shapes Sort 3d shapes by set categories Recognise, name and label 2d shapes Sort 2d shapes by set categories Make patterns with 3d and 2d shapes	Recognise, name and label 2d and 3d shapes Count edges on 2d shapes Count vertices on 2d shapes Draw 2d shapes Lines of symmetry – find and draw Sort 2d shapes Make patterns with 2d shapes Count faces on 3d shapes Count edges on 3d shapes Count vertices on 3d shapes Sort 3d shapes Make patterns with 3d shapes Explain why a shape is a shape and when it is not a shape (e.g. why it is or is not a triangle)

Position and Direction		
Year One describe position, direction and movement, including whole, half, quarter and three-quarter turns. **Year Two** 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).		
	Describe how many turns are needed to face an area	Describing movement of a person or an object using the

	Describe how many turns are needed for a person or object to turn 1/4, ½, ¾ or a whole turn Move a person or an object ¼, ½, ¾ or a whole turn Describe the position of an object or person using the related mathematical language Describe the movement of a person or object using the related mathematical language	related mathematical vocabulary Describing turns of a person or object using the related mathematical vocabulary Describing movement and turns to direct a person or object form one place to another Draw or plot a sequence of movements and to direct a person or object Deliver instructions orally to a person to carry out a sequence of movements using the related mathematical vocabulary

Measurement

EYFS

Shape, space and measures: Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

Year One

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]

time [for example, quicker, slower, earlier, later]

measure and begin to record the following:

lengths and heights

mass/weight

capacity and volume

time (hours, minutes, seconds)

recognise and know the value of different denominations of coins and notes

sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] and 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.

Year Two

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.

Compare the size of objects. Group objects by comparison. Put objects/people into size order. Compare different size objects and describe how they are different. Use related mathematical language. Know that somethings can change and grow. Understand that you can use money in exchange for goods in a shop or eatery.	Measure length using a ruler Measures weight and mass using a scales Measure capacity appropriate containers with a scale on it Compare weight, mass, capacity, length, height using relevant mathematical vocabulary, including units of measurements Recognise coins, 1p, 2p, 5p, 10p, 20p and 50p Reognise notes, including five and ten pound notes Understand before/after when sequencing time Know and use days of the week and months of the year Know time to the half hour and o'clock	Know and recognize o'clock and half past and use this to tell the time accurately both orally and when written down Know quarter past and to the hour and record in as a time Telling the time to 5 minutes and record Know how many hours there are in a day Know how many days are in a week/year Find durations of time by comparing two together Compare durations of time by using mathematical language Compare mass Measure mass in grams/kilograms

	Compare different times by sequencing events throughout the day Begin to record time by writing it down	Compare volume Measure in milimetres/litres Measure the temperature Measure using scales using jumps of 2, 5 and 10 Use different coins to make the same amount of money by using efficient strategies and record this practically or by using number sentences Work out the total sum of the cost of two or more items and how much change they will receive when paying with an amount over the total sum. Use related addition and subtraction facts to support their calculations Recognise all coins and notes.