EYFS AET Mathematics Progression from birth to 5 years. (Reception – Stage 6 and 7)

NUMBER

This is likely to be the first strand covered in EYFS and builds on children's early knowledge of number
It is essential that this strand takes place prior to adding and subtracting as there is a prior knowledge demand in both for counting. Similarly, numerals will be naturally a better fit following counting. Children are working here on developing confidence and competence in counting objects to 10, whilst honing their skills in instantly spotting when there are 1, 2, 3, 4 or 5 objects presented. They are also beginning to work with comparisons for small numbers. This is where the children will learn how to spot and understand simple numerical patterns, such as odd and even numbers, skills which will help them as they progress through their mathematical journey.

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9
Number Names & Counting								
Number names								
Reaches out for, touches and begins to hold objects. Explores objects with mouth, often picking up an object and holding it to the mouth.	Develops an awareness of number names through their enjoyment of action rhymes and songs that relate to their experience of numbers.	Says some counting words randomly. Begins to use some number names and number language spontaneously.	Recites some number names in sequence. Shows curiosity about numbers by offering comments or asking questions. Uses some number names and number language spontaneously. Begins to recognise numbers of personal significance (verbally).	Recites numbers in order to 10. Uses some number names accurately in play. Recognises numbers of personal significance (verbally).	Consistently recites/counts with numbers in order to 10 forwards and begins to do the same backwards. Uses number names accurately in play.	Consistently recites/counts with numbers in order to 10 forwards and backwards.	Counts reliably numbers from 0-20.	Counts beyond 20 (up to 100).

			Begins to have an understanding of what numbers are: names of numbers & uses.	Have an understanding of what numbers are: names of numbers, numerals, uses.	Have an understanding of numbers to 5, links names of numbers to their value and their position in the counting order.	Have an understanding of numbers to 10, links names of numbers to their value and their position in the counting order.	Have an understanding of numbers to 20, links names of numbers to their value and their position in the counting order.	Have an understanding of numbers beyond 20, links names of numbers to their value and their position in the counting order.
		Begins to join in number rhymes and counting sequences.	Joins in number rhymes and counting sequences, beginning to fill in/finish numbers in the rhymes.	With support recalls the next number in the verbal number sequence of counting forwards to 5.	Recalls the next number in the verbal number sequence of counting forwards to 10.	Recalls the next number in the verbal number sequence of counting backwards from 10.	Recalls the next number in the verbal number sequence of counting forwards to 20.	Recalls the next number in the verbal number sequence of counting backwards from 20.

Counting

	Has some understanding that things exist, even when out of sight.	Says some counting words randomly whilst pointing at objects. Knows that things exist, even when out of sight.	Selects a small number of objects from a group when asked, for example, 'please give me one', 'please give me two'.	Counts up to 5 (moveable) objects. Shows an interest in representing numbers.	Counts up to 10 objects saying one number for each item (1:1 correspondence) - moveable objects.	Beginning to count objects beyond 10. Counts an irregular arrangement of up to 10 objects.	Counts an irregular arrangement of up to 15 objects.	Uses efficient counting strategies when solving problems.
			Begins to take a quantity from a larger group and assign it a number.	Takes a quantity from a larger group and assigns it a number.	Beginning to count up to 3 objects from a larger group.	Counts up to 6 objects from a larger group.	Counts up to 15 objects from a larger group.	Beginning to count beyond 20 objects from a larger group.

		Joins in counting songs and rhymes; clapping/stamping along to simple rhythms.	Begins to join in with adults counting claps, jumps, steps, etc.	Realises not only objects, but anything can be counted, including steps, claps or jumps.	With support counts objects that cannot be moved & counts actions.	Counts objects that cannot be moved & counts actions.		
						Estimates how many objects they can see and checks by counting (up to 10)	Estimates how many objects they can see and checks by counting (up to 20).	Estimates how many objects they can see and checks by counting (beyond 20).
Recognising & Comparing								
Instant Recognition								
		Recognises there is more than one of an item.	Says 'two' when presented with two identical or similar things	Identifies that there are one or two things e.g. says 'there's one' or 'there are two', independently or in response to 'how many?'	Subitise (recognise quantities without counting) up to 3.	Subitise (recognise quantities without counting) up to 5.	Uses instant recognition to increase efficiency when counting.	Uses instant recognition to increase efficiency when solving number problems and when counting in 2s, 5s or 10s.
Making Comparisons								
		Begins to use the language of quantities 'lots' and 'few' as they play.	Begins to make comparisons between quantities, using some language of quantity, such as 'more' and 'a	Compares two groups of objects saying whether they have the same number or not.	Compare sets of objects up to 5 in different contexts, considering size and difference, using the language of more	Compare sets of objects up to 10 in different contexts, considering size and difference, using the	Compare sets of objects up to 20 in different contexts, considering size and difference, using the	Compare three or more sets of objects beyond 20 in different contexts, considering size and difference.

			lot'.		and fewer.	language of more and fewer.	language of more and fewer.	Uses the language of comparisons e.g. more, fewer, most & fewest

Recognising & Writing Numerals

Recognising Numerals

			Shows an interest in numerals in the environment.	Recognises and begins to order numerals 0 to 3.	Recognises and begins to order numerals 0 to 5.	Recognises and orders numerals 0 to 10.	Recognises and orders numerals 0 to 20.	Recognises and begins to order numerals beyond 20.
				Sometimes matches numeral and quantity correctly. Knows numbers identify how many objects are in a set.	Selects the correct numeral to represent 0-5 objects.	Selects the correct numeral to represent 0-10 objects.	Selects the correct numeral to represent 0-20. objects.	Selects the correct numeral to more than 20 objects. Order numerals beyond 20.
			Shows curiosity about numerals by offering comments or asking questions.	Recognises numbers of personal significance (verbally).	Recognises numerals of personal significance.	Recognises numerals of significance to others.		

Writing Numerals

Begins to hold objects.	Enjoys the sensory experience of making marks in	Makes connections between their	Creates and experiments with symbols and	Represent numbers using fingers, marks on	Begins to correctly form the numerals 0-5.	Begins to correctly form the numerals 0-10.	Begins to correctly form the numerals 0-20.	Begins to correctly form the numerals

	damp sand, paste or paint. Holds pen or crayon using a whole hand (palmar) grasp and makes random marks with different strokes.	movement and the marks they make. Begins to find comfortable ways of grasping, holding and using things they wish to use.	marks representing ideas of numbers.	paper or pictures.				beyond 20.
				Beginning to link some names of numbers and numerals.	Correctly links names of numbers and numerals 0-5.	Correctly links names of numbers and numerals 0-10.	Correctly links names of numbers and numerals 0-20.	Correctly links names of numbers and numerals beyond 20.
Number Patterns								
		Beginning to organise and categorise objects, e.g. putting all the teddy bears together or teddies and cars in separate piles.	Children begin to make their own patterns that may not follow a pattern structure but they can explain them to an adult.	Explore patterns of quantities up to 5; noticing that the quantity gets larger.	Explore patterns of numbers within numbers up to 5, including evens and odds.	Explore patterns of numbers within numbers up to 10, including evens and odds.	Explore patterns of numbers within numbers up to 20, including evens and odds.	Recall even and odd numbers up to 20.. Counts in 2s. Counts in 10s. Counts in 5s.

CALCULATION

This strand will build on children's knowledge of number and counting and should follow on from the Number strand. This consolidates their numerical learning and provides the prior knowledge the children will need to count totals and remaining quantities. Children are exploring the concepts of addition and subtraction and how these calculations change numbers. The children will experiment with different ways of representing these concepts through a variety of manipulatives and drawings, all of which will contribute to their development of mathematical language. The children will begin to understand the value of numbers through number bonds and number facts and experiment with different ways to make these. The children will also start to look at halving and sharing and how this links to equivalence.

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9
Addition & More								
More								
	Enjoys babbling and increasingly experiments with using sounds and words to communicate for a range of purposes, including 'more' when requesting something.	Beginning to put two words together to ask for more of something (e.g. 'more juice'). Begins to use the language of quantities 'lots', 'more' as they play.	Uses some language of quantities, such as 'more', 'same' and 'a lot'.	Finds the next number by counting on.	Finds one more from a group of up to 5 objects	Finds one more from a group of up to 10 objects Says the number that is one more than a given number up to 10.	Says the number that is one more than a given number up to 20.	Says the number that is two/three more than a given number up to 20.
Addition								
Notices changes in number of objects/images or sounds in groups of up to	Notices changes in number of objects/images when something is added, in groups of up to 3.	Begins to use the concept of adding more in their play e.g. 'adding more milk to the tea'.	Knows that a group of things changes in quantity when something is added.	Separates a group of 3 or 4 objects in different ways; begins to recognise that the total stays the	Finds the total number of objects in two groups by counting all of them (up to 10).	Solves a simple addition problem using pictures and objects.	Adds two single digits using quantities and objects by counting on.	Solves practical problems that involve combining groups of 2, 5 or 10

3.				same.				
					In practical activities and discussion, begin to use the vocabulary involved in adding (e.g.plus, add, total, altogether, addition, more).	Uses the language of addition, including plus, add, total, altogether, addition, more.	Correctly uses the language and symbols of addition (plus, add, total, altogether, addition, more, +, =).	
						Doubles numbers using objects.	Automatically recall double facts up to 5+5.	
Subtraction & Less								
Less								
	Enjoys babbling and increasingly experiments with using sounds and words to communicate for a range of purposes, including 'more' when requesting something.	Beginning to put two words together to ask for more of something (e.g. 'more juice'). Begins to use the language of quantities 'lots', 'more' and 'few' as they play.	Uses some language of quantities, such as 'more', 'same' and 'a lot'.	Finds the next number by counting on.	Finds one less from a group of up to 5 objects	Finds one less from a group of up to 10 objects Says the number that is one less than a given number up to 10.	Says the number that is one less than a given number up to 20.	Says the number that is two/three less than a given number up to 20.
Subtraction								
Notices changes in	Notices changes in number of	Begins to use the concept of taking	Knows that a group of things	Can count a group of things when	Solves a simple subtraction	Solves a simple subtraction	Subtracts a single digit from	Subtract a single digit from a

number of objects/images or sounds in groups of up to 3.	objects/images when something is taken away, in groups of up to 3.	away more in their play e.g. 'too much cake mixture, take some away'.	changes in quantity when something is taken away.	something is taken away and know that there has been a change.	problem (takeaway and difference) using objects.	problem (takeaway and difference) using pictures.	another single digit using quantities and objects by counting back. Subtracts a single digit from another single digit using quantities and objects by finding the difference.	number up to 20 using objects and pictures by counting back. Subtracts a single digit from a number up to 20 using objects and pictures by finding the difference.
					In practical activities and discussion, beginning to use the vocabulary involved in subtracting (e.g. take away, less, subtract, minus, difference)	Uses the language of subtraction, including take away, less, subtract, minus, difference.	Correctly uses the language and symbols of subtraction (take away, less, subtract, minus, difference, -, =)	

Number Bonds								
				Separates a group of 3 or 4 objects in different ways; begins to recognise that the total stays the same.	Use objects and pictures to make number bonds for numbers 0-5.	Use objects and pictures to make number bonds for 10.	Automatically recall number bonds for numbers 0-5 and for 10, including corresponding partitioning facts.	Automatically recall number bonds for numbers 0-10. Use objects and pictures to make number bonds for 20.

Sharing								

		Begins to share toys/objects with others.	Understands how to share with others fairly.	Uses the language of sharing.	Understands the concept of 'equals'; can recognise when two quantities/groups of objects are the same.	Shares objects equally between containers one at a time, counting how many are in each container. Identifies when objects/quantities have been shared equally (by counting).	Solves sharing problems	Shares objects between containers using efficient groups (of 2s, 5s and 10s).
						Halves an object/shape.	Halves an even quantity.	Halves an even number (out of context). Experiments with halving odd numbers.

SHAPE AND SPACE

Children will see different shapes in their world around them everyday. This unit is an opportunity for children to learn the names and properties of these shapes and how they can and will be used in the environment inside and outside of school. The introduction of names for shapes and their properties will add to the children's expanding library of mathematical language. Children will also see how these shapes and other items around us can be used to create different types of patterns. This will develop children's understanding of pattern within shape as well as number, and allow them to create their own patterns and describe or recreate patterns they have already seen. As with shape, children will see positional language in action everyday and this unit is the chance for them to verbalise these.

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9
2D & 3D Shapes								
2D Shapes								
		Attempts, sometimes successfully, to fit shapes into spaces on inset boards or jigsaw puzzles. Uses blocks to create their own simple structures and arrangements.	Notice simple shapes in pictures.	Recognises simple 2D shapes (circle, square, triangle) in the environment.	Names and recognises simple 2D (circle, square, triangle, rectangle).	Names and recognises a wider range of 2D shapes (circle, square, triangle, rectangle, quadrilateral, pentagon, hexagon, heptagon, octagon, oval, semicircle)	Explores characteristics of everyday 2D shapes.	Recognises and names a wide range of 2D shapes. Uses properties of shapes to name more unusual shapes.
			Beginning to categorise objects according to properties	Beginning to use everyday language to categorise objects according	Uses everyday language to describe shapes e.g. pointy, curved,	Uses some mathematical language to describe shapes	Uses mathematical language to describe 2D	Describes a wide range of 2D shapes using mathematical

			such as shape or size.	to properties e.g. pointy, sharp, round.	smooth, flat.	e.g. sides, corners, vertices, edges, faces, curved, straight, surface.	shapes.	language. Uses properties of shapes to begin to explain the similarities and differences between them. Uses properties of shapes to name more unusual shapes.
Begins to hold objects.	Enjoys the sensory experience of making marks in damp sand, paste or paint. Holds pen or crayon using a whole hand (palmar) grasp and makes random marks with different strokes.	Makes connections between their movement and the marks they make. Begins to find comfortable ways of grasping, holding and using things they wish to use.	Creates and experiments with symbols and marks representing ideas of shapes and pictures.	Creates pictures using shape like marks.	Begins to draw marks to represent shapes e.g. straight lines, curves, circles. Draws/prints with 2D shapes to make designs.	Begins to draw recognisable 2D shapes.	Accurately draws 2D shapes using straight lines, curved sides, etc.	
3D Shapes								
		Attempts, sometimes successfully, to fit shapes into spaces on inset boards or jigsaw puzzles. Uses blocks to	Notices simple shapes in pictures.	Begins to use 3D shapes blocks to build models.	Names and recognises simple 3D shapes (cube, cuboid, sphere, cone)	Names and recognises a wider range of 3D shapes (cube, cuboid, sphere, cone, pyramid, cylinder, triangular prism)	Explores characteristics of everyday 3D shapes.	Describes the 2D shapes they can see on the surfaces of 3D shapes Recognises and names a wide range of 3D

		create their own simple structures and arrangements.						shapes.
			Beginning to categorise objects according to properties such as shape or size.	Beginning to use everyday language to categorise objects according to properties e.g. pointy, sharp, round.	Uses everyday language to describe shapes e.g. pointy, curved, smooth, flat.	Uses some mathematical language to describe shapes e.g. sides, corners, vertices, edges, faces, curved, straight, surface.	Uses mathematical language to describe 3D shapes..	Describes a wide range of 3D shapes using mathematical language. Uses properties of shapes to name more unusual shapes.
						Begins to make informal 3D shapes using different materials e.g. balls, rolls, etc.	Begins to make recognisable 3D shapes using different materials.	

Shape Patterns

			Notice simple patterns in pictures.	Identifies when two things are the same. Begins to notice elements within a pattern (e.g. "this object and this object are the same")	Uses familiar objects and common shapes to build models.	Uses familiar objects and common shapes to create and recreate patterns.	Recognises, creates and describes patterns.	Recognises, creates and describes patterns using shapes, numbers and other items, using multiple variables.

Position								
		Points to named objects and begins to say 'there', 'here'.	Begins to use positional language (there, over, here, in the, by the).	Uses positional language (there, over, here, in the, by the).	Can describe their relative position (behind, in front, on top, under, next to).	Can describe their relative position (behind, in front, on top, under, next to, below, above, in between, left, right, beside outside, inside, around, through).	Uses everyday language to talk about position to compare objects and to solve problems.	Compares objects and talk about properties and position. Begins to appreciate that position is relative - describes the position of an object relative to another person/object.

MEASURES

Children may have seen different measures in their day-to-day lives; adults exchanging money in the shop, measuring out ingredients whilst cooking or seeing clocks and watches in their house. In this unit children will understand the purpose of these different measurements and understand the concepts that are attached to them. They will use skills that they have gained from previous units such as counting, number recognition and addition. They will learn and use the language of money, time and measuring and be able to apply these in their play and in real life contexts. They will use their comparison skills to compare periods of time, quantities of money and different sized objects and measurements.

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8	Stage 9
				Money				
		Begins to exchange and swap items with other children.	Begins to show an interest in money in the environment and play.	Begins to recognise the purpose and use of money (not the value of money, but that money is money). Begins to use everyday language related to money e.g money, coin, penny, pence, pound, price, buy, sell, costs, pay.	Begins to recognise coins. Begins to use more advanced language related to money e.g. change, dear, costs more, cheap, costs less, cheaper, costs the same as how much…? how many…? Total, coin names.	Begins to count the correct number of 1p coins or £1 coins to pay for an item. Uses advanced language to talk about money in context in their play.	Uses larger coins to pay for an item; recognises when change is needed (for whole pounds or pence up to 20). Uses everyday language to talk about money to compare quantities and to solve problems.	Compares and orders money. Selects appropriate coins (may be combinations) to pay for an item
								Gives correct change in

								simple transactions.
Time								
Time								
	Gets to know and enjoy daily routines, such as getting-up time, mealtimes, nappy time, and bedtime.	Begins to understand some talk about the immediate past and future, e.g. 'now' or ''later'.	Understands some talk about immediate past and future, e.g. 'before', 'later' or 'soon'.	Begins to use everyday language related to the time of day (morning, afternoon, evening, day time, night time).	Beginning to use language related to time (next, then, before, after, first).	Uses everyday language related to time (today, yesterday, tomorrow, fastest, slowest, clock, o'clock).	Uses everyday language to talk about time, to compare quantities and to solve problems.	
		Associates a sequence of actions with daily routines. Beginning to understand that things might happen 'now'	Anticipates specific time-based events such as mealtimes or home time.	Talks and asks questions about the time of day.	Begins to use clues from the environment to determine what time of day it is e.g. day time, night time, lunch time.	Uses clues from the environment to determine what time of day it is e.g. day time, night time, lunch time. Begins to use clues to determine what time of year it is.	Shows an interest in clocks and display of time in the environment. Offers comments e.g. 'the big hand is on the 12'. Uses clues to determine what time of year it is.	Begins to recognise features of time from a clock e.g. 'The hand is in between 2 and 3'oclock'. The hands are on the 12, it's 12 o'clock'. Begins to determine the month of the year.

				Begins to use sequencing of events order in their play e.g. have dinner then go to bed.	Orders and sequences familiar events.	Begins to recall the days of the week.	Recalls and orders the day of the week.	Compares and orders times.

Measuring Time

					Begins to measure time in meaningful contexts.	Measures and compares short periods of time in simple ways.	Knows some units of time (hours, minutes, seconds, years).	Estimates and measures times

Measures

	Recognises big things and small things in meaningful contexts.	Begins to use the language of size e.g. 'big', 'small'.	Begins to use the language of size and begins to use it to compare objects e.g. 'big', 'bigger', 'small', 'smaller'.	Begins to talk about the shapes of everyday objects, e.g. 'round' and 'tall'.	Uses everyday language to talk about size, weight, capacity and distance (heavy, light, tall, short, long, far, near full, empty, half full, half empty).	Uses appropriate language to describe and compare objects (heaviest, lighest, shortest, longest, tallest, furthest, nearest).	Uses everyday language to talk about size, weight, capacity.	Talks about properties.
			Beginning to categorise objects according to properties such as shape or size.	Begins to talk informally about sizes and other features of objects e.g. 'big', 'small', 'enormous', 'heavy', 'all gone'.	Compares two items based on their height, length, weight or capacity.	Orders two or three items by length or height. Orders two items by weight or capacity.	Uses everyday language to compare quantities and objects and to solve problems.	Compares and orders objects by distance, weight or capacity.

		Enjoys filling and emptying containers		Begins to use measuring techniques in play.	Uses measuring techniques in play.	Shows an interest in measuring objects in the environment.	Begins to use nonstandard units of measure to measure distances, weights and capacities.	Estimates and measures distances, weights and capacities.