

## 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.

### Stages 1- 3

### Stage 4

### Stage 5

### Stage 6

### Stage 7

### Stage 8

### Stage 9

### Recognising & Representing Numbers

Count in everyday contexts, sometimes skipping numbers – '1-2-3-5'.	Recites some number names in sequence.	Recite numbers past 5.	Consistently counts with numbers in order to 10 forwards and begins to do the same backwards.	Consistently counts backwards with numbers in order from 10.  Begins to verbally count to 20.	Verbally count beyond 20.	Counts up to 100.  Uses efficient counting strategies when solving problems.
<p>Joins in counting songs and rhymes; clapping/stamping along to simple rhythms.</p> <p>Develop counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence.</p> <p>Has some understanding that things exist, even when out of sight.</p> <p>Says some counting words randomly whilst pointing at objects.</p>	<p>Begins to join in with adults counting claps, jumps, steps, etc.</p> <p>Count in everyday contexts, sometimes skipping numbers - '1-2-3-</p>	<p>Realises not only objects, but anything can be counted, including steps, claps or jumps.</p> <p>Say one number for each item in order: 1,2,3,4,5.</p> <p>Knows that the last</p>	<p>With support counts objects that cannot be moved &amp; counts actions.</p> <p>Counts up to 10 objects saying one number for each item (1:1 correspondence) - moveable</p>	<p>Count objects, actions and sounds.</p> <p>Link the number symbol (numeral) with its cardinal number value.</p> <p>Beginning to count objects beyond 10.</p>	<p>Counts an irregular arrangement of up to 15 objects.</p> <p>Counts up to 15 objects from a larger group.</p>	<p>Beginning to count beyond 20 objects from a larger group.</p>

	<p>5.'</p> <p>Selects a small number of objects from a group when asked, for example, 'please give me one', 'please give me two'.</p>	<p>number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').</p> <p>Show 'finger numbers' up to 5.</p> <p>Beginning to count up to 5 (moveable) objects.</p>	<p>objects.</p> <p>Beginning to count up to 3 objects from a larger group.</p>	<p>Counts an irregular arrangement of up to 10 objects.</p> <p>Counts up to 6 objects from a larger group.</p>		
<p>Take part in finger rhymes with numbers.</p>	<p>Shows curiosity about numbers by offering comments or asking questions.</p> <p>Uses some number names and number language spontaneously.</p> <p>Begins to recognise numbers of personal significance (verbally).</p> <p>Shows an interest in numerals in the environment.</p>	<p>Experiment with their own symbols and marks as well as numerals.</p> <p>Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.</p> <p>Shows an interest in representing numbers.</p> <p>Recognises and begins to order numerals 0 to 5.</p> <p>Knows numbers identify how many</p>	<p>Consistently recognises and begins to order numerals 0 to 5.</p> <p>Selects the correct numeral to represent 0-5 objects.</p> <p>Correctly links names of numbers and numerals 0-5.</p>	<p>Recognises and orders numerals 0 to 10.</p> <p>Selects the correct numeral to represent 0-10 objects.</p> <p>Correctly links names of numbers and numerals 0-10.</p>	<p>Recognises and orders numerals 0 to 20.</p> <p>Selects the correct numeral to represent 0-20 objects.</p> <p>Correctly links names of numbers and numerals 0-20.</p>	<p>Recognises and begins to order numerals beyond 20.</p> <p>Selects the correct numeral to more than 20 objects.</p> <p>Correctly links names of numbers and numerals beyond 20.</p>

		<p>objects are in a set.</p> <p>Beginning to link some names of numbers and numerals.</p>				
<p>Begins to hold objects.</p> <p>Enjoys the sensory experience of making marks in damp sand, paste or paint.</p> <p>Holds pen or crayon using a whole hand (palmar) grasp and makes random marks with different strokes.</p> <p>Makes connections between their movement and the marks they make.</p> <p>Begins to find comfortable ways of grasping, holding and using things they wish to use.</p>		<p>Experiment with their own symbols and marks as well as numerals.</p>	<p>Begins to correctly form the numerals 0-5. Show 'finger numbers' up to 5.</p>	<p>Begins to correctly form the numerals 0-10.</p>	<p>Begins to correctly form the numerals 0-20.</p>	<p>Begins to correctly form the numerals beyond 20.</p>
<b>Comparing Numbers</b>						
<p>Compare amounts, saying 'lots', 'more' or 'same'</p>	<p>Begins to make comparisons between quantities, using some language of quantity, such as 'more' and 'a lot'.</p>	<p>Says 'two' when presented with two identical or similar things</p> <p>Compares two groups of objects saying whether they have the same number or not.</p> <p>Compare</p>	<p>Compare sets of objects up to 5 in different contexts, considering size and difference, using the language of more and fewer.</p>	<p>Compare sets of objects up to 10 in different contexts, considering size and difference, using the language of more and fewer.</p> <p>Use vocabulary: 'more than', 'less than', 'fewer',</p>	<p>Compare sets of objects up to 20 in different contexts, considering size and difference, using the language of more and fewer.</p>	<p>Compare three or more sets of objects beyond 20 in different contexts, considering size and difference. Uses the language of comparisons e.g. more, fewer, most &amp; fewest</p>

		quantities using language: 'more than', 'fewer than'.		'the same as', 'equal to'.		
<b><u>Composing Numbers</u></b>						
			Have a deep understanding of composition of 2 and 3 before moving onto larger numbers.	Have a deep understanding of composition of 4 and 5 before moving onto larger numbers.	Have a deep understanding of numbers to 10, including the composition of each number.	Have a deep understanding of numbers to 20, including the composition of each number.
React to changes of amount in a group of up to three items	Recognises there is more than one of an item.	Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').	Consistently subitise (recognise quantities without counting) up to 3.	Begin to Subitise (recognise quantities without counting) up to 5.	Subitise (recognise quantities without counting) up to 5 and use instant recognition to increase efficiency when counting.	Uses instant recognition to increase efficiency when counting and when counting in 2s, 5s or 10s.
<b><u>Number Patterns</u></b>						
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.	Begin to recognise the pattern of the counting system.  Explore patterns of numbers within numbers up to 3.	Begin to recognise the pattern of the counting system.  Explore patterns of numbers within numbers up to 10.	Recognises the pattern of the counting system.  Explore and represent patterns within numbers up to 10	Recall even and odd numbers up to 20.. Counts in 2s. Counts in 10s. Counts in 5s.

					Explore and represent patterns within numbers up to 10, including, double facts.	Uses doubling facts to efficiently solve addition problems.
					Explore and represent patterns within numbers up to 10, including evens and odds.	

## 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.

<u>Stages 1-3</u>	<u>Stage 4</u>	<u>Stage 5</u>	<u>Stage 6</u>	<u>Stage 7</u>	<u>Stage 8</u>	<u>Stage 9</u>
<u>Addition</u>						
<p>Compare amounts, saying 'lots', 'more' or 'same'</p> <p>Beginning to put two words together to ask for more of something (e.g. 'more juice').</p> <p>Begins to use the concept of adding more in their play e.g. 'adding more milk to the tea'.</p>	<p>Uses some language of quantities, such as 'more', 'same' and 'a lot'.</p>	<p>Finds the next number by counting on.</p>	<p>Finds one more from a group of up to 5 objects</p>	<p>Understand the 'one more than/one less than' relationship between consecutive numbers.</p>	<p>Says the number that is one more than a given number up to 20.</p>	<p>Says the number that is two/three more than a given number up to 20.</p>

				<p>Finds one more from a group of up to 10 objects.</p> <p>Says the number that is one more than a given number up to 10.</p>		
<p>Combine objects like stacking blocks and cups. Put objects inside others and take them out again.</p> <p>Take part in finger rhymes with numbers.</p> <p>React to changes of amount in a group of up to three items.</p>	<p>Knows that a group of things changes in quantity when something is added.</p>	<p>Solve real world mathematical problems with numbers up to 5.</p> <p>Separates a group of 3 or 4 objects in different ways; begins to recognise that the total stays the same.</p>	<p>Finds the total number of objects in two groups by counting all of them (up to 10).</p> <p>Begin to use the vocabulary involved in adding (e.g. plus, add, total, altogether, addition, more).</p>	<p>Solves a simple addition problem using pictures and objects.</p> <p>Uses the language of addition, including plus, add, total, altogether, addition, more.</p>	<p>Adds two single digits using quantities and objects by counting on.</p> <p>Correctly uses the language and symbols of addition (plus, add, total, altogether, addition, more, +, =).</p>	<p>Solves practical problems that involve combining groups of 2, 5 or 10</p>
<b><u>Subtraction</u></b>						
<p>Compare amounts, saying 'lots', 'more' or 'same'</p> <p>Beginning to put two words together to ask for more of something (e.g. 'more juice').</p>	<p>Uses some language of quantities, such as 'more', 'same' and 'a lot'.</p>	<p>Compare quantities using language: 'more than', 'fewer than'.</p> <p>Finds the next number by counting on.</p>	<p>Finds one less from a group of up to 5 objects</p>	<p>Finds one less from a group of up to 10 objects</p> <p>Says the number that is one less than a given number up to 10.</p>	<p>Says the number that is one less than a given number up to 20.</p>	<p>Says the number that is two/three less than a given number up to 20.</p>

<p>React to changes of amount in a group of up to three items.</p> <p>Begins to use the concept of taking away more in their play e.g. 'too much cake mixture, take some away'.</p> <p>Begins to use the language of quantities 'lots', 'more' and 'few' as they play.</p>	<p>Knows that a group of things changes in quantity when something is taken away.</p>	<p>Can count a group of things when something is taken away and know that there has been a change.</p>	<p>Solves a simple subtraction problem (takeaway and difference) using objects.</p> <p>Beginning to use the vocabulary involved in subtracting (e.g. take away, less, subtract, minus, difference)</p>	<p>Solves a simple subtraction problem (takeaway and difference) using pictures.</p> <p>Uses the language of subtraction, including take away, less, subtract, minus, difference.</p>	<p>Subtracts a single digit from another single digit using quantities and objects by counting back.</p> <p>Subtracts a single digit from another single digit using quantities and objects by finding the difference.</p>	<p>Subtract a single digit from a number up to 20 using objects and pictures by counting back.</p> <p>Subtracts a single digit from a number up to 20 using objects and pictures by finding the difference.</p> <p>Correctly uses the language and symbols of subtraction (take away, less, subtract, minus, difference, -, =)</p>
<p><u>Number Bonds</u></p>						
		<p>Separates a group of 3 or 4 objects in different ways; begins to recognise that the total stays the same.</p>	<p>Use objects and pictures to make number bonds and begin to automatically recall number bonds for numbers 0–5.</p> <p>Sustained focus on each number</p>	<p>Automatically recall number bonds for numbers 0–5.</p> <p>Sustained focus on each number to and within 5.</p>	<p>Automatically recall number bonds for numbers 0–5 and some to 10.</p>	<p>Automatically recall number bonds for numbers 0-10. Use objects and pictures to make number bonds for 20.</p>

			to and within 5.			
<u>Sharing</u>						
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).	Explore how quantities can be distributed equally.  Solves sharing problems	Shares objects between containers using efficient groups (of 2s, 5s and 10s).
<u>Halving</u>						
				Halves an object/shape.	Explore and represent patterns within numbers up to 10, including evens and odds.	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.

<u>Stages 1-3</u>	<u>Stage 4</u>	<u>Stage 5</u>	<u>Stage 6</u>	<u>Stage 7</u>	<u>Stage 8</u>	<u>Stage 9</u>
	<p>Notice simple shapes in pictures and the environment.</p> <p>Beginning to categorise objects according to properties such as shape or size.</p>	<p>Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc.</p> <p>Combine shapes to make new ones – an arch, a bigger triangle, etc.</p> <p>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>	<p>Names and recognises simple 2D (circle, square, triangle, rectangle).</p>	<p>Names and recognises a wider range of 2D shapes (circle, square, triangle, rectangle, quadrilateral, pentagon, hexagon, heptagon, octagon, oval, semicircle)</p> <p>Select, rotate and manipulate shapes to develop spatial reasoning skills.</p> <p>Compose and decompose shapes and recognise a shape can have</p>	<p>Explores characteristics of everyday 2D shapes.</p>	<p>Recognises and names a wide range of 2D shapes.</p> <p>Uses properties of shapes to name more unusual shapes.</p>

				other shapes within it, just as numbers can.		
		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 2D shapes.	Describes a wide range of 2D shapes using mathematical language. Uses properties of shapes to begin to explain the similarities and differences between them. Uses properties of shapes to name more unusual shapes.
<p>Begins to hold objects.</p> <p>Enjoys the sensory experience of making marks in damp sand, paste or paint.</p> <p>]Holds pen or crayon using a whole hand (palmar) grasp and makes random marks with different strokes.</p> <p>Makes connections between their movement and the marks they make.</p> <p>Begins to find comfortable ways of grasping, holding and using things they wish to use.</p>	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.	
Attempts, sometimes successfully, to fit shapes into spaces on inset boards or jigsaw puzzles.	Notices simple shapes in pictures.	Begins to use 3D shapes blocks to build models. Select shapes	Names and recognises simple 3D shapes (cube, cuboid, sphere,	Names and recognises a wider range of 3D shapes (cube,	Explores characteristics of everyday 3D shapes.	Describes the 2D shapes they can see on the surfaces of 3D

<p>Uses blocks to create their own simple structures and arrangements.</p>		<p>appropriately: flat surfaces for building, a triangular prism for a roof etc. Combine shapes to make new ones - an arch, a bigger triangle etc. Build with a range of resources.</p>	<p>cone)</p>	<p>cuboid, sphere, cone, pyramid, cylinder, triangular prism)</p>		<p>shapes Recognises and names a wide range of 3D shapes.</p>
	<p>Beginning to categorise objects according to properties such as shape or size.</p>	<p>Beginning to use everyday language to categorise objects according to properties e.g. pointy, sharp, round.</p>	<p>Uses everyday language to describe shapes e.g. pointy, curved, smooth, flat.</p>	<p>Uses some mathematical language to describe shapes e.g. sides, corners, vertices, edges, faces, curved, straight, surface.</p>	<p>Uses mathematical language to describe 3D shapes.</p>	<p>Describes a wide range of 3D shapes using mathematical language. Uses properties of shapes to name more unusual shapes.</p>
				<p>Begins to make informal 3D shapes using different materials e.g. balls, rolls, etc.</p>	<p>Begins to make recognisable 3D shapes using different materials.</p>	
<p>Notice patterns and arrange things in patterns.</p>	<p>Notice simple patterns in pictures. Talk about and identifies the patterns around</p>	<p>Talk about and identify the patterns around them. For example: stripes on clothes,</p>	<p>Uses familiar objects and common shapes to build models. Extend and create ABAB patterns.</p>	<p>Continue, copy and create repeating patterns.</p>	<p>Recognises, creates and describes patterns.</p>	<p>Recognises, creates and describes patterns using shapes, numbers and other items,</p>

	<p>them</p>	<p>designs on rugs and wallpaper.</p> <p>Use informal language like 'pointy', 'spotty', 'blobs', etc.</p> <p>Extend and create ABAB patterns – stick, leaf, stick, leaf.</p> <p>Notice and correct an error in a repeating pattern.</p>	<p>Notice and correct an error in a repeating pattern.</p>			<p>using multiple variables.</p>
<p>Attempts, sometimes successfully, to fit shapes into spaces on inset boards or jigsaw puzzles.</p> <p>Uses blocks to create their own simple structures and arrangements.</p> <p>Climb and squeeze themselves into different types of spaces.</p> <p>Build with a range of resources.</p> <p>Points to named objects and begins to say 'there', 'here'.</p>	<p>Begins to use positional language (there, over, here, in the, by the).</p>	<p>Understand position through words alone – for example, "The bag is under the table," – with no pointing.</p> <p>Describe a familiar route.</p> <p>Discuss routes and locations, using words like 'in front of' and 'behind'.</p>	<p>Can describe their relative position (behind, in front, on top, under, next to). Discuss routes and locations.</p>	<p>Can describe their relative position (behind, in front, on top, under, next to, below, above, in between, left, right, beside outside, inside, around, through).</p>	<p>Uses everyday language to talk about position to compare objects and to solve problems.</p>	<p>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.</p>

## 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.

<u>Stages 1-3</u>	<u>Stage 4</u>	<u>Stage 5</u>	<u>Stage 6</u>	<u>Stage 7</u>	<u>Stage 8</u>	<u>Stage 9</u>
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.
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'.  Associates a sequence of actions with daily routines. Beginning to understand that things might happen 'now'	Understands some talk about immediate past and future, e.g. 'before', 'later' or 'soon'.  Anticipates specific time-based events such as mealtimes or home time.	Begins to use everyday language related to the time of day (morning, afternoon, evening, day time, night time).  Talks and asks questions about the time of day.  Begin to describe a sequence of events, real or fictional, using	Beginning to use language related to time (next, then, before, after, first).  Begins to use clues from the environment to determine what time of day it is e.g. day time, night time, lunch time.  Orders and	Uses everyday language related to time (today, yesterday, tomorrow, fastest, slowest, clock, o'clock).  Uses clues from the environment to determine what time of day it is e.g. day time, night time, lunch time.	Uses everyday language to talk about time, to compare quantities and to solve problems.  Uses clues to determine what time of year it is.  Recalls and orders the day of the week.  Knows some units	Begins to recognise features of time from a clock e.g. 'The hand is in between 2 and 3 o'clock'. The hands are on the 12, it's 12 o'clock'. Begins to determine the month of the year.

		<p>words such as 'first', 'then...'</p>	<p>sequences familiar events real or fictional.</p> <p>Begins to measure time in meaningful contexts.</p>	<p>Begins to use clues to determine what time of year it is.</p> <p>Begins to recall the days of the week.</p> <p>Measures and compares short periods of time in simple ways.</p>	<p>of time (hours, minutes, seconds, years).</p> <p>Shows an interest in clocks and display of time in the environment. Offers comments e.g. 'the big hand is on the 12'.</p>	<p>Compares and orders times.</p> <p>Estimates and measures times</p>
<p>Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'.</p> <p>Recognises big things and small things in meaningful contexts.</p> <p>Begins to use the language of size e.g. 'big', 'small'.</p> <p>Enjoys filling and emptying containers</p>	<p>Begins to use the language of size and begins to use it to compare objects e.g. 'big', 'bigger', 'small', 'smaller'.</p> <p>Beginning to categorise objects according to properties such as shape or size.</p>	<p>Make comparisons between objects relating to size, length, weight and capacity.</p> <p>Begins to talk about the shapes of everyday objects, e.g. 'round' and 'tall'.</p> <p>Begins to talk informally about sizes and other features of objects e.g. 'big', 'small', 'enormous', 'heavy', 'all gone'.</p> <p>Begins to use measuring techniques in play.</p>	<p>Uses everyday language to talk about size, weight, capacity and distance (heavy, light, tall, short, long, far, near full, empty, half full, half empty).</p> <p>Compares two items based on their height, length, weight or capacity.</p> <p>Uses measuring techniques in play.</p>	<p>Uses appropriate language to describe and compare objects (heaviest, lightest, shortest, longest, tallest, furthest, nearest).</p> <p>Compare length, weight and capacity.</p> <p>Orders two or three items by length or height. Orders two items by weight or capacity.</p> <p>Shows an interest in measuring objects in the environment.</p>	<p>Uses everyday language to talk about size, weight, capacity.</p> <p>Uses everyday language to compare quantities and objects and to solve problems.</p> <p>Begins to use nonstandard units of measure to measure distances, weights and capacities.</p>	<p>Talks about properties.</p> <p>Compares and orders objects by distance, weight or capacity.</p> <p>Estimates and measures distances, weights and capacities.</p>

