EYFS Statutory Framework – Mathematics

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

Mathematics ELG: Number	Stepping Stones: Number	Mathematics ELG: Numerical Patterns	Stepping Stones: Number Patterns
Children at the expected level of development will: - Have a deep understanding of number to 10, including the composition of each number; 14 - Subitise (recognise quantities without counting) up to 5; - 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.	Children will begin to: - count forwards to 10, 20 or 40 - begin to count backwards from 10 - compare two sets of objects using one-to-one correspondence - add two or more numbers - recall number bonds to 10 -subtract numbers using the 'take-away' concept - understand and use the part-whole model to add and subtract - write a family of number sentences with three related numbers.	Children at the expected level of development will: - Verbally count beyond 20, recognising the pattern of the counting system; - 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 will begin to: - count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. - use concrete objects, pictorial representations and arrays to double and half numbers, count in 2s, 5s and 10s - understand multiplication as a repeated addition - recall number bonds to 10 and 20 - begin to identify tens and ones in a number.

Birth to Three	Three to Four	Reception
babies, toddlers and young children will be learning to: - Combine objects like stacking blocks and cups. Put objects inside others and take them out again. - Take part in finger rhymes with numbers. React to changes of amount in a group of up to three items. - Compare amounts, saying 'lots', 'more' or 'same'. Develop counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence. - Count in everyday contexts, sometimes skipping numbers – '1-2-3-5'. - Climb and squeeze themselves into different types of spaces. Build with a range of resources. Complete inset puzzles. - Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'. - Notice patterns and arrange things in patterns.	3 and 4-year-olds will be learning to: - Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). - Recite numbers past 5. Say one number for each item in order: 1,2,3,4,5. - Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). - Show 'finger numbers' up to 5. - Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. - Experiment with their own symbols and marks as well as numerals. -Solve real world mathematical problems with numbers up to 5. -Compare quantities using language: 'more than', 'fewer than'. - 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'. - Understand position through words alone – for example, "The bag is under the table," – with no pointing. -Describe a familiar route. -Discuss routes and locations, using words like 'in front of' and 'behind'. - Make comparisons between objects relating to size, length, weight and capacity. - Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. -Combine shapes to make new ones – an arch, a bigger triangle, etc. - Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. -Extend and create ABAB patterns – stick, leaf, stick, leaf. -Notice and correct an error in a repeating pattern. -Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	- Count objects, actions and sounds. - Subitise. - Link the number symbol (numeral) with its cardinal number value. - Count beyond ten. - Compare numbers - Understand the 'one more than/one less than' relationship between consecutive numbers. - Explore the composition of numbers to 10. - Automatically recall number bonds for numbers 0–5 and some to 10. - Select, rotate and manipulate shapes 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. - Compare length, weight and capacity

	Autumn Term	Spring Term	Summer Term
Nursery	**Number**		
	Comparison • Beginning to compare and recognise changes in numbers of things, using words like more, lots or 'same' **Counting** • Begins to say numbers in order, some of which are in the right order (ordinality) **Cardinality** • In everyday situations, takes or gives two or three objects from a group • Beginning to notice numerals (number symbols) • Beginning to count on their fingers.	**Comparison** • Compares two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. You've got two, I've got two. Same! **Cardinality** • Subitises one, two and three objects (without counting) • Counts up to five items, recognising that the last number said represents the total counted so far (cardinal principle) **Composition** • Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers • Beginning to use understanding of number to solve practical problems in play and meaningful activities • Compare quantities using language: 'more than', 'fewer than'.	**Counting** • May enjoy counting verbally as far as they can go • Points or touches (tags) each item, saying one number for each item, using the stable order of 1,2,3,4,5. • Uses some number names and number language within play, and may show fascination with large numbers • Begin to recognise numerals 0 to 10 **Cardinality** • Links numerals with amounts up to 5 and maybe beyond • Explores using a range of their own marks and signs to which they ascribe mathematical meanings • Show 'finger numbers' up to 5. • Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. **Composition** • Beginning to recognise that each counting number is one more than the one before • Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same
	Spatial Awareness, Shape, Pattern, Measure		
	Spatial Awareness • Moves their bodies and toys around objects and explores fitting into spaces • Begins to remember their way around familiar environments • Responds to some spatial and positional language • Explores how things look from different viewpoints including things that are near or far away	**Spatial Awareness** • Responds to and uses language of position and direction • Understand position through words alone – for example, "The bag is under the table," – with no pointing. **Shape** • Chooses items based on their shape which are appropriate for the child's purpose • Responds to both informal language and common shape names	**Spatial Awareness** • Predicts, moves and rotates objects to fit the space or create the shape they would like • Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' • Discuss routes and locations, using words like 'in front of' and 'behind'. **Shape**

	Shape • Chooses puzzle pieces and tries to fit them in • Recognises that two objects have the same shape • Makes simple constructions **Pattern** • Joins in and anticipates repeated sound and action patterns • Is interested in what happens next using the pattern of everyday routines **Measures** • Explores differences in size, length, weight and capacity • Beginning to understand some talk about immediate past and future • Beginning to anticipate times of the day such as mealtimes or home time	• Shows awareness of shape similarities and differences between objects • Attempts to create arches and enclosures when building, using trial and improvement to select blocks **Pattern** • Joins in with simple patterns in sounds, objects, games and stories dance and movement, predicting what comes next • Recalls a sequence of events in everyday life and stories • Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. • Use informal language like 'pointy', 'spotty', 'blobs', etc. • Explores and adds to simple linear patterns of two or three repeating items, e.g. stick, leaf (AB) or stick, leaf, stone (AB) **Measures** • Begin to make comparisons between objects relating to size, length, weight and capacity.	• 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' • Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes • Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. Combine shapes to make new ones – an arch, a bigger triangle, etc. • **Pattern** • Creates their own spatial patterns showing some organisation or regularity • Chooses familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat **Measures** • In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items
Reception	**Number**		
	Pupils will build on previous experiences of number from their home and nursery environments, and further develop their subitising and counting skills. They will explore the composition of numbers within 5. They will begin to compare sets of objects and use the language of comparison. Pupils will: • identify when a set can be subitised and when counting is needed • subitise different arrangements, both unstructured and structured, including using the Hungarian number frame • make different arrangements of numbers within 5 and talk about what they can see, to develop their conceptual subitising skills • spot smaller numbers 'hiding' inside larger numbers connect quantities and numbers to finger patterns and explore different ways of representing numbers on their fingers • hear and join in with the counting sequence, and connect this to the 'staircase' pattern of the counting numbers, seeing that each number is made of one more than the previous number	Pupils will continue to develop their subitising and counting skills and explore the composition of numbers within and beyond 5. They will begin to identify when two sets are equal or unequal and connect two equal groups to doubles. They will begin to connect quantities to numerals. Pupils will: • continue to develop their subitising skills for numbers within and beyond 5, and increasingly connect quantities to numerals • begin to identify missing parts for numbers within 5 • explore the structure of the numbers 6 and 7 as '5 and a bit' and connect this to finger patterns and the Hungarian number frame • focus on equal and unequal groups when comparing numbers understand that two equal groups can be called a 'double' and connect this to finger patterns • sort odd and even numbers according to their 'shape' • continue to develop their understanding of the counting sequence and link cardinality and ordinality through the 'staircase' pattern • order numbers and play track games	Pupils will consolidate their counting skills, counting to larger numbers and developing a wider range of counting strategies. They will secure knowledge of number facts through varied practice. Pupils will: • continue to develop their counting skills, counting larger sets as well as counting actions and sounds • explore a range of representations of numbers, including the 10-frame, and see how doubles can be arranged in a 10-frame • compare quantities and numbers, including sets of objects which have different attributes • continue to develop a sense of magnitude, e.g. knowing that 8 is quite a lot more than 2, but 4 is only a little bit more than 2 • begin to generalise about 'one more than' and 'one less than' numbers within 10 • continue to identify when sets can be subitised and when counting is necessary • develop conceptual subitising skills including when using a rekenrek

	• develop counting skills and knowledge, including: that the last number in the count tells us 'how many' (cardinality); to be accurate in counting, each thing must be counted once and once only and in any order; the need for 1:1 correspondence; understanding that anything can be counted, including actions and sounds • compare sets of objects by matching • begin to develop the language of 'whole' when talking about objects which have parts	• join in with verbal counts beyond 20, hearing the repeated pattern within the counting numbers	
	Spatial Awareness, Shape, Pattern, Measure		
	Spatial Awareness • Uses spatial language, including following and giving directions Shape • Uses informal language and analogies, (e.g. heart-shaped and hand-shaped leaves) to describe shapes • Enjoys composing and decomposing shapes Pattern • Spots patterns in the environment, beginning to identify the pattern "rule" • Fixes errors in AB patterns • Fills in missing element of an ABAB pattern. Measure • Becomes familiar with measuring tools in everyday experiences and play • Is increasingly able to order and sequence events using everyday language related to time • Beginning to experience measuring time in a range of ways through play. • Compare length, weight and capacity.	Spatial Awareness • Using relative terms and describing what they see from different viewpoints • Investigates turning and flipping objects in order to make shapes fit and create models Shape, • Uses mathematical terms to describe shapes • Learning which shapes combine to make other shapes Pattern • Recognise, describe and build a three-part pattern (ABC) • Recognizes, describes, and builds repeating patterns with core units such as AAB and AABC. Measure • To understand fairness and accuracy when comparing length, weight or capacity • Use measuring tools in everyday experiences and play for a purpose. • Experience measuring time in a range of ways through play for a purpose.	Spatial Awareness • Predicting and visualising how models will look (spatial reasoning) • Select, rotate and manipulate shapes to develop spatial reasoning skills. Shape • Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Pattern • Describes a pattern numerically and can translate between geometric and numeric representation of a series. Measure • Enjoys tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy • Use measuring tools in everyday experiences and play for a purpose, with increasing accuracy. • Experience measuring time in a range of ways through play for a purpose using timers and calendars