**Nursery**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Mathematics** **Number** **Numerical Patterns** Included Birth to three year objectives that we historically need to focus on | * Compare sizes, weights etc. using gesture and language - ‘bigger/little/smaller’, ‘high/low’, ‘tall’, ‘heavy’.
* Count in everyday contexts, sometimes skipping numbers - ‘1-2- 3-5.’
* Take part in finger rhymes with numbers. React to changes of amount in a group of up to three items.
* 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’.
 | * 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.
* 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’.
 | * 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’.
* 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.
* 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’.
 | * 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 identifies 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...
* 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.
 |    |
|  | * 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’.
* Make comparisons between objects relating to size, length, weight and capacity.
* Say one number for each item in order: 1,2,3,4,5.
 |

**Reception**

|  |  |
| --- | --- |
| **Mathematics** **Number** **Numerical Patterns** **Identified 3-4year learning objectives that we historically need to focus on** |   |
| * 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.

Teaching:* Talk about and identifies 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.
* Make comparisons between objects relating to size, length, weight and capacity. Counts objects, actions and sounds
* Compare numbers
* Continue, copy and create repeating patterns
 | * 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.
* Subitise
* Count objects, actions and sounds.
* Link the number symbol (numeral) with its cardinal number value.
* Compare numbers
* Understand the ‘one more than/one less than’ relationship between consecutive numbers.
* Explore the composition of numbers to 5
* 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’.
* Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.
* 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’
* Select, rotate and manipulate shapes in order to develop spatial reasoning skills.
* Begin to describe a sequence of events, real or fictional, using words such as ‘first’, ‘then...’
 | * Subitise
* Count objects, actions and sounds.
* Link the number symbol (numeral) with its cardinal number value.
* 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 0–1o
* Compare length, weight and capacity
* Experiment with their own symbols and marks as well as numerals.
* Continue, copy and create repeating patterns.
* Continue to describe a sequence of events, real or fictional, using words such as ‘first’, ‘then...’
 | Consolidation of all knowledge, skills learnt.  | * Subitise
* Count objects, actions and sounds.
* Link the number symbol (numeral) with its cardinal number value.
* Compare numbers
* Understand the ‘one more than/one less than’ relationship between consecutive numbers.
* Explore the composition of numbers to 10 and beyond
* Automatically recall number bonds for numbers 0–10 and beyond
* Compare length, weight and capacity
* Continue, copy and create repeating patterns.
* Select, rotate and manipulate shapes in order to develop spatial reasoning skills
* Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can
 | Mathematics Number ELG Children at the expected level of development will:* Have a deep understanding of number to 10, including the composition of each number; -
* 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.

Numerical Patterns ELG 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.
* Select, rotate and manipulate shapes in order to develop spatial reasoning skills
* Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can
 |

**End Goal for End of Nursery:**

We understand all children have different starting points, experiences and needs, we will always cater for and focus on the individual child and their individual progress however we aim for the children leaving Nursey to have a deep understanding of number language within play and use mathematical language reliably for example using more and less, same, heavy, light…. We aim for children to have a good understanding of numbers 0-5, they will be able to count out reliably and recite numbers to 5. We aim to give children all of the real-life experiences of mathematical problems for them to immerse themselves into and negotiate solving problems. We will give them the opportunity to discuss language of shape, not just 2D but also the shapes within the natural environment, such as the jagged edges, straight lines ….

**End Goal for End of Reception:**

We understand all children have different starting points, experiences and needs, we will always cater for and focus on the induvial child and their individual progress however we aim for the children leaving Reception to children will develop a strong grounding in number that 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. Children will develop a secure base of knowledge and vocabulary from which mastery of mathematics. Children will develop their spatial reasoning skills across all areas of mathematics including shape, space and measures.

Although the statutory framework discusses the mastery approach to 10, like any other area of learning we will not put a ceiling on their learning and as we follow white rose, those who are confident and ready to will continue to numbers beyond.