

## Early Years 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.

### Early Learning Goals

At the end of reception year children on track will be expected to reach ELG (Early Learning Goals) in number and numerical patterns

#### ELG: Number

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.

#### ELG: Numerical Patterns

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.

### In Nursery children 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...’

### **In Reception children will be learning to...**

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 0–10.

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.

Continue, copy and create repeating patterns.

Compare length, weight and capacity.