

FOUNDATION STAGE

Maths

MATHEMATICS

Maths split into two areas for the Early Learning Goal – Maths and Numerical patterns.

Both elements are covered under ‘Maths’ in the development matters statements up to the ELGs.

Some aspects for reception coverage have been moved into the 3-4 years section in the development matters statements.

Children will be either emerging into the Early Learning Goal or they will achieve the ELG. No exceeding statement within the new curriculum.

DEVELOPMENT MATTERS STATEMENTS 3-4 YEARS

- 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 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...'

DEVELOPMENT MATTERS STATEMENTS RECEPTION

- 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

EARLY LEARNING GOAL - MATHS

- 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.

EARLY LEARNING GOAL — NUMERICAL PATTERNS

- 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

ONENESS OF ONE ETC

To develop a strong sense of number, children need lots of experiences of each number.

For example:

Count lots of different types of objects – big, small, spread out, pattern, random, etc

Count actions and sounds as well as things

Count in different contexts

To begin with focus on numbers to 5 but numbers in environment should be up to 10 and beyond

<https://www.bbc.co.uk/iplayer/cbeebies/episode/b08d630h/numberblocks-series-1-five>



NUMBERS IN THE ENVIRONMENT

You will have numbers for different purposes:

Cardinal numbers

Ordinal numbers

Nominal numbers



CARDINAL NUMBERS

The number of items in a set, the quantity but not the order of things



ORDINAL NUMBERS

A term that describes a position within an ordered set or a group of numbers in order



NOMINAL NUMBERS

Using the number as a label

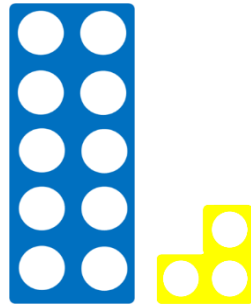
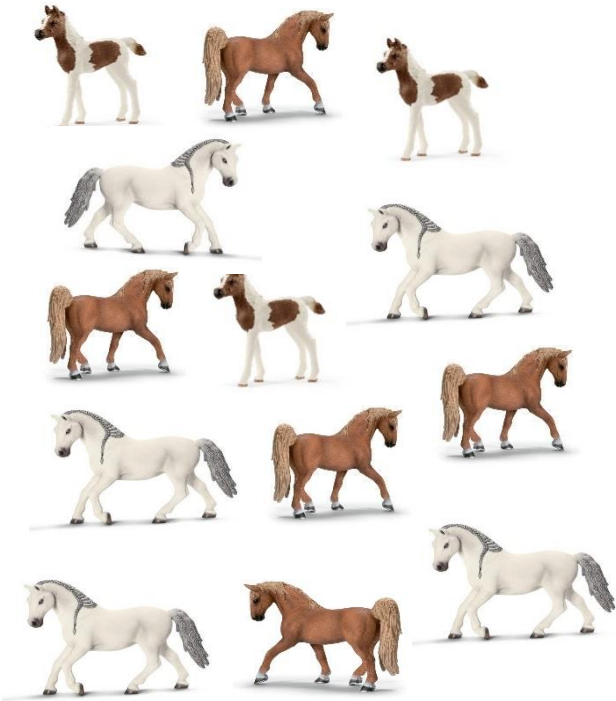


CPA APPROACH

C – Concrete

P – Pictorial

A – Abstract



SUBITISING

Recognising the size of a set from the pattern or structure of the set without having to count the number of objects



HOW SUBITISING WORKS

Perceptual subitising

Recognising a small number of items without using a pattern or any mathematics to help

Conceptual subitising

Using the pattern or arrangement of items to recognising the number, eg dots on dice or dominoes

WHAT MIGHT MAKE SUBITISING DIFFICULT?

Very young children don't have enough experience of number to be able to subitise.

Children need to develop spatial awareness skills before they can subitise

Some texts, such as worksheet, don't have clear enough patterns and the elements become confused.

PATTERN

Children who can recognise and make patterns are more likely to be successful mathematicians.



PATTERN PRE-SKILLS

There are skills children need before they can understand pattern:

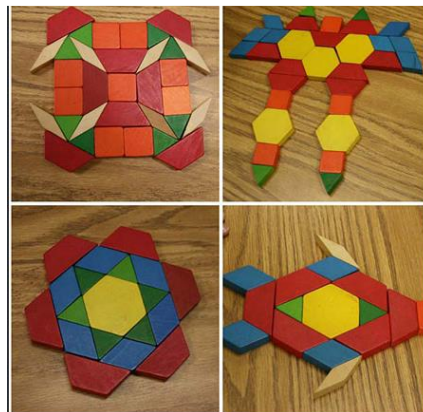
They need to be able to sort/classify

They need to be able to talk about things that are the same and things that are different



EXPLORING PATTERN

Use some resources to create the pattern type provided



CHILDREN'S UNDERSTANDING OF PATTERN

Can children:

Spot a pattern

Use pattern in their play

Use symmetry

Use positional language appropriately

Make and describe line patterns

Copy a pattern sequence accurately

Create a pattern sequence

Describe a pattern sequence

Make a growing pattern

SSM IN CONTINUOUS PROVISION



SUPPORTING AT HOME

Completing the homework activities

Use incidental learning when out shopping, sorting washing etc.

Baking with children.

Using specific language ie – longer, shorter, taller, heavy, light.

Use the number lines and hundred squares we send home.

Noticing patterns and rote counting in 1's, 2's, 10's.