

## Aims for the session:

- Understand the Maths curriculum in Reception
- Understand the importance around number
- Understand the mathematical terms used
- Understand how best to support your child at home


## 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.

## SIX KEY AREAS OF EARLY MATHEMATICS LEARNING



Cardinality and Counting
Understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' of things it represents


## Pattern

Looking for and finding patterns helps children notice and understand mathematical relationships


Comparison
Understanding that comparing numbers involves knowing which numbers are worth more or less than each other


Shape and Space
Understanding what happens when shapes move, or combine with other shapes, helps develop wider mathematical thinking


Composition
Understanding that one number can be made up from (composed from) two or more smaller numbers


Measures
Comparing different aspects such as length, weight and volume, as a preliminary to using units to compare later

## Reception curriculum

## Mathematics

## 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.


## Mastery

## Mathematical behaviours

An important element of children achieving deep understanding of numbers to ten is their attitude towards and confidence in working with these numbers. Children need to feel that they are 'good' with number and can find solutions, even if they find a problem initially more challenging. Effective mathematical behaviours include:
-having a go
-having another go
-estimating
-wondering
-checking

- Exploring


Mastery is developing a deeper understanding of a concept. Being able to make links within a concept, problem solve. Mastery is not learning larger numbers or adding two large numbers together.

- Develop children's conceptual understanding of number using:
- Concrete
- Pictorial

- Abstract

$$
6+1=
$$

## Number formation

Teaching correct number formation is as critical as learning to read or learning number bonds.

When it comes to leaning how to learn to write numbers, certain foundations need to be in place before children are ready to learn to form them. They need to be able to reproduce a vertical, horizontal and diagonal line.

- Sing a rhyme to remember the pattern
- Make it creative - get messy!
- Repetition.



## 

Children starting to have a go, some errors.

Through regular practice, children now forming numbers correctly more consistently.



Have a deep understanding of number to 10 , including the composition of each number;

In Reception, children start the year focusing on one number each week.


Subitise (recognise quantities without counting) up to 5 ;
Subitising is when you are able to look at a group of objects and realise how many there are without counting.


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.

A number bond is a pair of numbers that always add together to make another, larger, number. Children are introduced to this concept through number bonds to 5 .


## Number bonds

Concrete:

Pictorial:


Abstract: $4+1=5$


Number bonds

Create as many number bonds as you can, using the resources at your tables.

Verbally count beyond 20 , recognising the pattern of the counting system;

Children being able to spot the pattern of it increasing by 1 each time. See the amounts get bigger. Spotting it goes from 1 all the way to 9 and the pattern repeats itself.


Counting Activity
Confusion: crossing the 10 barrier!

17, 18, 19 ...
27, 28, 29 ...


2

5

Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;

Big focus around language and contextualising language. Always supporting with concrete resources for children to visually see.

## More than/greater than

## Less than



## Equal = the same

Numbers that look different, but are the same



Explore and represent patterns within numbers up to 10 , including evens and odds, double facts and how quantities can be distributed equally.

## Odd and even numbers

What do you notice about odd numbers?
What do you notice about even numbers?


Even numbers have a partner.


Odd numbers don't have a partner.

## Double facts

Adding the same number to itself.


## How you can support at home



## Measuring

- Cooking- weighing and following instructions
- Measure yourselfl-make a height strip. Keep a graph to show your growth! How much
have you grown?
- Measure stuffl - use a tape measure
- Telling the time- how long until...? Analogue /digital time, Days of the week, dates, keep a calendar/



## Picnic or Party maths:

- Preparing food for a group of people is a real problem solving opportunity; how many cups can we fill with one jug, how many pieces of pizza can we cut from each one? A great opportunity to use terms like 'half' 'quarter' 'double' and put those tables into practice.


## Shopping games:

- Set up a mini supermarket in the kitchen and give the children some real money to go shopping with.
- Change can be the trickiest concept and needs to be taught in 'real' shopping activities which can be done really well

Number games

- Board games
- Snakes and ladders
- Dominoes
- Playing card games eg snap. doubles
- Dice games eg exchange game
- Have fun playing with a calculator and try out those signs!



## at home.

## Shapes everywhere

- Shopping Shape Sort; let your child loose on the packages and sort them into cuboids, cylinders, cubes
- 2-D shape pictures and patteri
- Which shapes can you draw? you a ruler for some of them!


## THANK YOU!

- Questions?
- Useful links:
- https://www.topmarks.co.uk/maths-games/5-7years/counting
- https://nrich.maths.org/
- Early Years

