

#### Maths in the Early Years -What to Expect



#### Wednesday 18th September 2019

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# Aims of the Session

- To outline the key areas of the Maths Curriculum with focus on the Early Learning Goals
- To share how children develop Maths skills across Early Years
- To give you some ideas of how you can help your child at home

# Early Years Curriculum

Early Years Curriculum - birth to end of Reception

#### Prime Areas

- Communication and Language
- Personal Social and Emotional Development
- Physical Development

#### Specific

- Literacy
- Mathematics
- Understanding the World
- Creative Development



Examples of Day to Day Maths at Langley

- Daily carpet sessions linked to Maths
- Cross-curricular table top activities
- Cross-curricular outdoor learning opportunities
- Lots of talking
- Self-discovery
- Using concrete objects
- Asking questions
- Real-life learning
- Practical and engaging lessons









#### Early Mathematical Understanding

- From a very early age, children begin to have an understanding of number.
- Children as young as two years of age can confidently identify one, two or three objects before they can actually count with understanding.
- As mental powers develop, usually by about the age of four, groups of four can be recognised without counting.



# Early Years Curriculum





How do we approach Mathematical Development in the Early Years?

 Playing, building, number rhymes



- Games and activities both indoors and out, e.g. cooking, goal scoring, skittles
- Making the most of routines e.g. snack time, tidying up
- Small group activities

https://tapestryjournal.com/s/langley-first-school-/observation/3259



#### Understanding the Concept of Number















# Seeing Number

We follow a concrete, pictorial, abstract approach.

**Concrete** – handling real objects e.q. conkers, leaves, shells, toys etc

**Pictorial** – basic images to represent numbers e.g. numicon, whole part models, drawings

Abstract - written calculations e.q. 5 + 5 = 10



### Seeing Number

### We follow a concrete, pictorial, abstract approach.



#### Numberblocks





The images and use of language that feature in each episode serve as a useful starting point for developing basic number sense.

### Visual Representations

Children should have opportunities to develop basic number sense. A tens frame allows children to arrange concrete materials in a linear fashion. Children are able to recognise up to five items without counting. For six or more items, a tens frame provides an image which will allow children to very quickly calculate the total.





Using 10s frames to count how many marbles the Giant's golden egg weighs.

I need more marbles because the egg side is still all the way down. It's heavier.



### Solving Problems Young children need problems

- That they understand
- Where the outcome is relevant and matters to them- even if it is imaginary
- That involve mathematics with which they are confident



# Solving Problems Teddy Bears' Picnic

Some of the bears are having a picnic. How many biscuits can they each have?



### Solving problems





How many stars has the boy collected?

How do you know?

How many more stars does he need to get to 10?

### Solving problems

There are 10 loaves of bread in total.

The Little Red Hen brought 4.



The Bull brought 5.

How many did the cat bring?





#### Stem Sentences



#### Stem sentences



A stem sentence provides children with the language they need to access a problem.

"10 is the same as 8 and 2."

"8 and 2 is the same as 10."

"2 more than 8 is the same as 10."

"8 more than 2 is the same as 10."

### Whole, part models

Children need to be given opportunities to develop 'number sense'. There is a very clear expectation that children will learn number bonds to 10. The use of tens frames and whole, part models helps to provide an understanding of what the number bonds are and why we need to learn them.



### Whole, Part Models

- If a classroom is a part, then the school is a whole.
- If a city is a **part**, then the country is a **whole**.
- If a country is a **part**, then a continent is a **whole**.
- If my arm is the whole, the hand is a part.
- If my house is the whole, the living room is a part.
- This idea should provide children with a greater understand of the addition calculations that they carry



out.





5 can be made of \_\_\_\_ and \_\_\_\_.

How many animals?



How many eggs did the Easter Bunny take?

10

10

less subtract

Reception - Mathematics 40-60 months

Recognise some numerals of personal significance.
Recognises numerals I to 5.
Counts up to three or four objects by saying one number name for each item.
Counts actions or objects which cannot be moved.
Counts objects to IO, and beginning to count beyond IO.
Counts out up to six objects from a larger group.

#### Early Learning Goal

Children count reliably with numbers from 1-20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems including doubling, halving and sharing.



# Counting in 2s



I had 10 but I forgot that I needed one for the middle of the flower so now I have





#### Now it is your turn to be 5 again

- In pairs, split the sand in half and make a mound with one of the halves.
- Take it in turns to roll the dice and add that many spoonfuls of sand to the cup.
- Make a sandcastle and place the jewel on the top, in the centre of the sandcastle.
- Now use the dice to see how many slices you need to chop off with the knife without the jewel falling off.



- During the game you
- •Recognised numbers on the dice.
- •Made sense of the numbers by knowing how many spoonfuls you needed.
- •Counted.
- •Made predictions of how many more spoonfuls you needed.
- •Talked to your partner about what was happeningprobably using mathematical language.
- Knew what number you wanted on the dice when adding spoonfuls and when slicing away the sand.
  Saw how the amount changed.



Children with a good concept of number can start to see patterns and relationships between numbers.

Children can begin to apply their knowledge of number bonds- 'Tens Frame' or 'Dimple Trays'

Numicon

I know I scored 8 because only 2 are left standing.





## Here are a few ideas to help you

## Counting













# Looking for Numbers







40

# Sharing Food







### Measures









# Money











Shape, Space and Measure

#### <u>Measures</u>

Use everyday language to talk about:

- size
- weight
- capacity
- position
- distance
- time
- money
- patterns

#### Geometry

• Explore the characteristics of everyday objects and shapes.

• Use mathematical language to describe objects and shapes.







Click on the link below for the 'What to Expect' document

http://www.foundationyears.org.uk/files/201 5/03/4Children\_ParentsGuide\_2015\_WEB. pdf

# Thanks for coming!