

# MATHS IN THE EARLY YEARS

How maths is taught in the EYFS and how you can support your children at home.

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# This workshop will cover:

- What maths looks like in Early Years
- How maths is taught at Highwood
- How you can support your children at home



# EYFS Statutory Framework

## 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.



# How we teach maths in the early years:

- We make it fun! Where possible Maths is linked to real life problems, stories and children's interests.
- Using objects, children need to be secure in using practical apparatus before moving onto more abstract concepts.
- Through the day: lunch time tallies, counting how many children are in school, calendar, clapping syllables, singing number songs.
- Through short focused sessions whole class; in small group and 1:1.
- Use of Numberblocks
- Mastery approach focussing on developing a good number sense – automaticity of numbers



# Children in Nursery are 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



# Children in Nursery are learning to:

- 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' and 'fewer than'
- talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language such as:
  - sides
  - corners
  - straight
  - flat
  - round



# Children in Nursery are learning to:

- 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 such as flat surfaces for building or a triangular prism for a roof
- combine shapes to make new ones, for example, an arch or a bigger triangle



# Children in Nursery are learning to:

- talk about and identify the patterns around them, for example, stripes on clothes or designs on rugs and wallpaper
- use informal language like 'pointy', 'spotty' or 'blobs'
- 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...'





# Children in Reception are 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



# Maths Early Learning Goals – Expectations for the end of Reception

## Number

- 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

- 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.



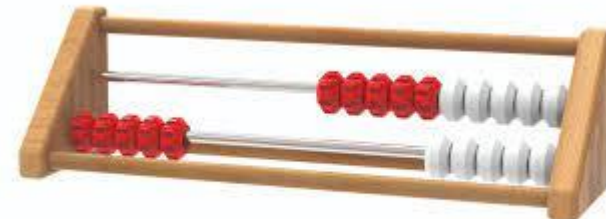
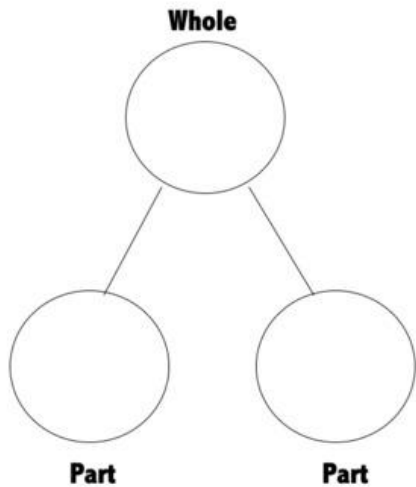
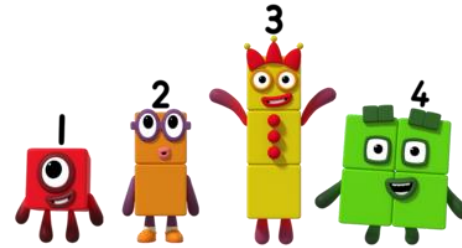
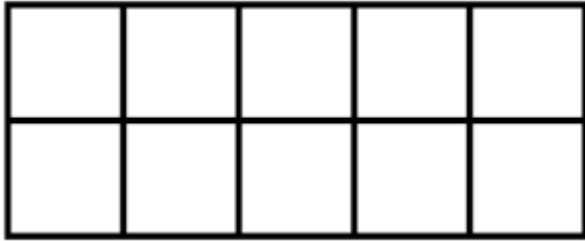
# A typical maths lesson in Reception

- Concrete Pictorial Abstract (CPA) approach
- Carpet time whole class
- Activity
- 10-15 mins
- Based around Numberblocks
- Lots of speaking in full sentences, my turn, your turn
- Children explaining their ideas





# Resources used at school



# How to help your child at home:

- Take away their fear. Have a positive mindset.
- Let them see you using maths in your everyday routines – portioning meals between the family, chopping vegetables into halves and quarters etc.
- Play with numbers and shapes through games.
- Seeing mistakes as an opportunity to learn and using them as a discussion point.
- Recognising the importance and value of maths in our everyday lives e.g. managing money and telling the time.



# Ideas for maths activities at home:

- Count - steps up the stairs, money into a money box etc.
- Play games using dice/dominoes and encourage child to say how many spots without counting.
- Ask children to set the table with enough knives, forks and plates for everyone.
- Spot numbers in the environment – on phones, microwaves, clocks, registration plates, doors.
- Ask children to think of their own representations for numbers e.g. one of them, two hands, three bears, four wheels on a car, five toes, six sides on a dice, seven dwarves, eight legs on an octopus etc.
- Watch Numberblocks on Cbeebies. This programme is written by maths specialists to model maths concepts and represents number brilliantly. Also, Numberjacks is excellent for solving problems.
- Hide numbers around the house or garden for children to find. Play outdoor maths games like hopscotch and skittles. Even better, let children make up their own games and decide how to score points.
- Read books with maths concepts e.g. The Very Hungry Caterpillar, One is a Snail Ten is a Crab, What's the Time, Mr Wolf? The Doorbell Rang.
- Draw attention to more and less in a range of situations, e.g. amount of raisins, number of animals at the farm.



# Alternatives to maths resources

Counters



or you could use.....

Smarties



3D shapes



or you could use.....

groceries



Counting Bears



or you could use.....

anything you have a lot of!





# You can use anything you have around the house

Pasta for counting



Cards for number recognition and counting



Sweets for counting



Magnetic numbers for number recognition



Toys to put in size order





# Don't Forget Outside





# Numbers are all around us!



# Books and songs that incorporate maths:

## Songs and rhymes:

- 5 Currant buns
- 5 Little monkeys
- 5 Little men in a flying saucer
- 5 Little ducks
- 5 Little speckled frogs
- 1 Elephant went balancing, step by step on a piece of string
- The ants go marching
- 1,2 Buckle my shoe
- 1,2,3,4,5 Once I caught a fish alive
- 2 Little dickie birds
- -Alice the camel

## Stories:

- Rosie's walk
- 10 Black dots
- The shape of things
- Spinderella
- Hop on pop
- We're going on a bear hunt
- Six Dinner Sid
- The very hungry caterpillar
- 1 is a snail, 10 is a crab
- Elmer
- How many jellybeans?
- How big is a million?



# Useful websites:

Number Blocks

<https://www.bbc.co.uk/cbeebies/shows/numberblocks?page=2>

Nursery rhymes and counting songs

<https://www.bbc.co.uk/teach/school-radio/nursery-rhymes-counting-medley/zj94y9q>

Cbeebies – Helping your child to be epic at maths

<https://www.bbc.co.uk/cbeebies/grownups/help-your-child-with-maths>

NRICH activities for parents and children

<https://nrich.maths.org/14588>

What to expect in the EYFS

<https://dev-foundation-years.pantheonsite.io/wp-content/uploads/2021/09/What-to-expect-in-the-EYFS-complete-FINAL-16.09-compressed.pdf>



# Useful free apps

- Monster music factory



- Monster birthday surprise



- Monster frog pond

