

MATHS IN EARLY YEARS FOUNDATION STAGE



Maths in EYFS is a very **'hands-on' and collaborative** subject. Children use a wide range of concrete apparatus to ensure they **build secure foundations** in their understanding of number, shape and pattern. By the end of the year, the children will have been taught all the skills they need to meet the requirements of the **EYFS profile and achieve the Early Learning Goals** for maths.



In EYFS at Whitehouse Primary School, we use **stimulating visual resources** such as 'Numberblocks', and materials from the National Centre of Excellence for the Teaching of Mathematics (NCETM), alongside resources from White Rose Maths to introduce the maths concepts to the children. We then build on this by providing a **variety of practical experiences** to reinforce and deepen their understanding.

Children learn maths everyday through a variety of approaches: **daily teacher-led maths** learning and **ongoing provision** of child-initiated maths learning and learning through play. They have a stimulating classroom and **outdoor environment**, which provide access to a variety of quality maths resources. Relevant maths **vocabulary, symbols and recording** is introduced and modelled by the teaching staff at appropriate times throughout all maths learning opportunities.



During teacher-led maths learning, concepts are introduced to the class by the teacher, usually using 'Numberblocks' as a stimulus. The children then build on this learning by practising the skill in mixed-ability groups, completing a range of practical activities. Adults support and extend the children's learning during these activities, as appropriate. For example, the children may be introduced to the concept of '1 more' using a 'Numberblocks' video clip, which is followed by **teacher modelling and questioning to reinforce the key learning points**. The children then move into groups to work on a series of carefully planned, engaging activities where the children **explore and practise** finding '1 more' using a variety of different concrete resources and representations. This could be counting 1 more on a number line, using objects to add 1 more to a group, or rolling a dice and counting 1 more than the number shown. Using a **variety of representations** to apply their learning, ensures concepts are embedded and it gives teaching staff the opportunity to use **skilful questioning** to assess learning and then **support or deepen** the children's understanding as appropriate.



What are the expectations for an EYFS child in maths?

In EYFS2, the children are working towards achieving their 'Early Learning Goals' in each area of learning, by the end of the academic year.

Below are the current ELGs* for maths (some children will achieve the ELGs at the 'exceeding' level).

Mathematics

This involves providing children with opportunities to:

- practise and improve their skills in counting numbers, calculating simple addition and subtraction problems
- describe shapes, spaces, and measures

ELG 11 Numbers:

- Children count reliably with numbers from 1 to 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 2 single-digit numbers and count on or back to find the answer
- They solve problems, including doubling, halving and sharing

ELG 12 Shape, space and measures:

- Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems
- They recognise, create and describe patterns
- They explore characteristics of everyday objects and shapes and use mathematical language to describe them

Early learning goal	Description of 'exceeding'
11. Numbers	Children estimate a number of objects and check quantities by counting up to 20. They solve practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups.
12. Shape, space and measures	Children estimate, measure, weigh and compare and order objects and talk about properties, position and time.

*There are currently new, revised ELGS for maths which are being piloted by a sample of schools across the country. Following the pilot, the Department for Education will decide whether to replace the existing ELGs (above) with the new, revised ELGs.

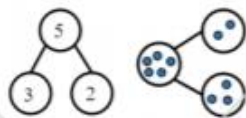
There are key mathematical skills the children need to establish in order to achieve the ELGs and to prepare them for Year 1 and beyond. These skills, which are taught to the children in Reception, are listed below.

- Ordinality – ordering numbers Ordinal numbers – 1st, 2nd, 3rd etc.
- Cardinality – using cardinal numbers (1, 2, 3 etc) to say how many there are
- Subitising – recognising ‘how many’ without having to count e.g. recognising the numbers of dots on dice or dominoes without needing to count each dot
- Equality – comparing quantities, numbers and objects to find which are ‘equal’, ‘more’, or ‘less’
- 1:1 correspondence - the ability to match an object to the corresponding number and recognise that numbers are symbols to represent a quantity
- Conservation of number – knowing that the number of objects stays the same even when rearranged
- Concept of 0 – understanding that a 0 shows the absence of any quantity / value
- Counting on - to begin with a number / number of objects and continue counting from that number to establish how many there are

What resources will my child use to help them understand?

Here are some of the resources that children use in Reception to help them in their understanding of maths:

Part –Whole Model



Bead strings



Numicon



Five Frame and Ten Frame



$$4 + 1 = 5$$



$$7 + 3 = 10$$



Children also use **cubes, dice, dominoes, digit cards** and any other practical equipment in their learning environment to support their understanding.

What maths vocabulary is used for this age group?

Key vocabulary:

Addition Part, whole, add, more, plus, and, make, altogether, total, equal to, equals, double, most, count on.	Subtraction Part, whole, equal to, take, take away, less, minus, subtract, leaves, difference between, how many more, how many fewer / less than, most, least, count back, how many left, how much less is_?
Multiplication Part, whole, groups of, lots of.	Division Part, whole, share, share equally, one each, two each..., group, groups of, lots of.
Measure Measure, weigh, length, height, balance, Comparison of measures vocabulary - heavy/lighter/light, long/ shorter/short, full/empty, thick/thin, deep/shallow, wide/narrow etc. Time vocabulary -days of the week, months of the year, quick/slow, today/tomorrow/yesterday, morning/afternoon/evening, early/late, hour/day/week/month/year	Shape Shape, pattern, flat, curved, straight, round, hollow, solid, corner, face, side, edge, end, circle, triangle, square, rectangle, cube, pyramid, sphere, cone Position and direction vocabulary - over, under, above, below, top, bottom, side on, in, outside, inside, around, in front, behind, front, back before, after, beside, next to, opposite, apart

Examples of key questions that are used to assess and develop understanding:

What do you notice?

What's the same? What's different?

How many... are there?

How do you know?

Can you show me another way?

How many ways are there?

How can we help at home?

TOP TIPS:

1. Be positive about maths and avoid saying things like 'I can't do maths' or 'I hated maths at school'. A negative attitude could cause your child to think like that themselves.
2. Talk about the maths in everyday life, and ask your child how they work out problems or questions.
3. Let your child enjoy talking about what they've learned, and praise effort and perseverance.

EASY WAYS OF SUPPORTING YOUR CHILD AT HOME:

- Sing songs and rhymes that promote counting and understanding of number e.g. 'Ten green bottles', 'One, two buckle me shoe', 'Five little speckled frogs' etc.
- Practise counting when doing everyday activities, such as counting cutlery when laying the table, counting toys when tidying up etc.
- Play games which encourage counting and subitising – snakes and ladders, dice games, dominoes.
- Cooking / gardening / DIY with your child, helping to reinforce understanding of measures
- Talk about time – for example, how long does it take to walk to school?
- Go on a shape hunt – how many circles, squares, rectangles, triangles can you find? You can look for patterns too.
- Look for numbers ... on doors, buses, cars, signs, at the shops, in sports scores ... anywhere! Remember to talk about what the numbers mean.
- Play with things like shells, bottle tops, beads, LEGO – and compare them. These things are great for patterns too.
- Put things in order – of weight, height, size. Ask your child to help you organise things at home.
- Explore capacity with containers creating full, half full, empty at the sink or during bath time.

Useful websites:

<https://www.bbc.co.uk/cbeebies/shows/numberblocks>

https://www.bbc.co.uk/schools/websites/4_11/site/numeracy.shtml

<https://www.topmarks.co.uk/maths-games/5-7years/counting>

<https://www.familymathstoolkit.org/activities-for-children>

<https://nrich.maths.org/13371>

play.numbots.com (app is also available)