Welcome to our Maths Workshop

FS1/FS2

Workshop aims:-

- What does maths look like in FS1 and FS2?
- What are the key principles of maths in the Early Years?
- How can children be supported?

At Birley Primary Academy, our shared vision for mathematics is:

· To foster a sense of curiosity and excitement about the subject
· For every child to develop their mathematical fluency and to be able to reason and problem solve confidently.
· To provide a context for learning to ensure children develop an understanding of how mathematics is used in the wider world
· To provide a mathematics curriculum where children continually build on the knowledge they have already mastered and are able to make rich connections across mathematical ideas
· To enable children to confidently reason about their mathematics by promoting the use of accurate mathematical language
· To secure children's knowledge and accuracy when recalling number facts
· To develop children's mathematical thinking by using a range of models to support learning e.g. concrete manipulatives and pictorial representations, before moving onto abstract symbols
· To promote enjoyment of learning through practical activity, exploration and discussion
· To build resilience and promote a positive growth mind set in mathematics

The level of progress children should be expected to have attained by the end of the Foundation Stage 2 year is defined by the early learning goals.

The Maths ELGs that children are assessed against at the end of their reception year are:

Number ELG

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.

Numerical Patterns ELG

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.

The link below will take you to the Department for Education's Early Years Foundation Stage Profile document if you would like to find out more about the Early Learning Goals for the foundation stage.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1109972/Early_Years_Foundation_Stage_profile_2023_handbook.pdf

There are six key areas of early mathematics learning, which collectively provide a platform for everything children will encounter as they progress through their maths learning at primary school, and beyond. (NCETM, 2019)

Cardinality and Counting

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

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Comparison

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

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Composition

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

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Pattern

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

Material from the NCETM website - https://www.ncetm.org.uk/in-the-classroom/early-years/

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Shape and Space

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

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Measures

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

What does Maths look like in FS1/FS2?

➢ Learning through play.
➢ Outdoor activities.
➢ Counting, counting and more counting!
➢ Singing number songs
➢ Pattern spotting, copying and creating repeating patterns
➢ Number recognition and ordering to 5 (FS1) and to 10 (FS2).
➢ Learning number bonds for all numbers up to and including 10 (FS2).
➢ Shape recognition, 2D (circle, square, rectangle, triangle) and 3D (cone, pyramid, cylinder, cube, cuboid).
➢ Addition and subtraction using single digit numbers (FS2).
➢ Measuring, making comparisons, sorting and identifying.

FS1

Sorting into criteria. This could be colours, amounts, personal characteristics (boy/girl).. The list goes on!

Enjoying counting as far as they can go and using number names in play

Creating repeating patterns

Building with different equipment, different sizes and different shapes

Experimenting with measure. This could be in the sand, the water, balancing scales and more
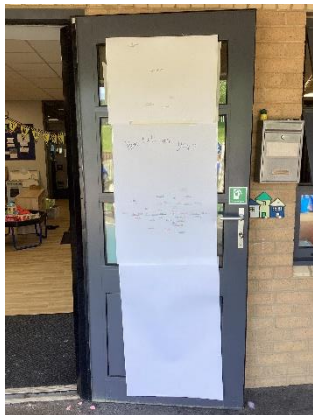
Number stamps, how many candles on your cup cake, lots of questions about 'How many..?'

Number

Summary	Points in sequence to a number of objects.	Starts to use some number names and starts to ascribe names to objects in a rhythmical way.	Can identify 1 and 2 objects when asked.	Subitises and count to 3.	Counts up to five starting to understand cardinal principle.	Uses number in play. Can identify numerals to 5.

Numerical patterns

Summary	Counts rhythmically and can count in songs and rhymes.	Starts to use number comparison language.	Enjoys counting as far as they can and uses numbers in their play.	Can say what number comes next when counting and singing number songs.	Can use "more than" to identify different groups.	Can identify when two groups have the same number.

Shape, space and measure

| Summary	Can build using different equipment of different sizes and shapes.	Can talk about their models and what they used to build their models, identifying different bricks and colours, for example.	Can sort using simple criteria.	Starts to identify simple patterns.	Can make simple comparisons.	Starts to use simple shape names.
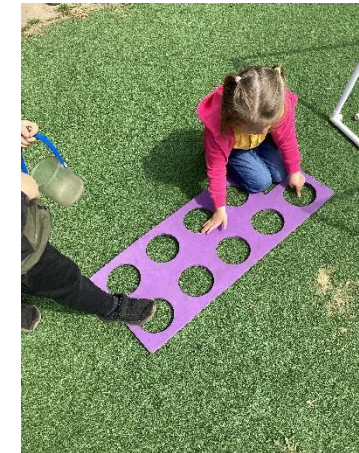
Concrete, Pictorial, Abstract

The concrete, pictorial, abstract approach (or CPA method) is a process of using "concrete" equipment to represent numbers (including fractions) and operations, such as addition, subtraction, division and multiplication, followed by a pictorial representation to represent the equipment or derived structures (like bar and part-whole models), before moving on to the "abstract" digits and various other symbols used in mathematics.
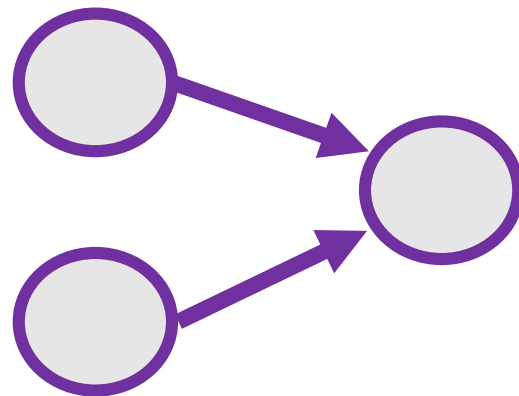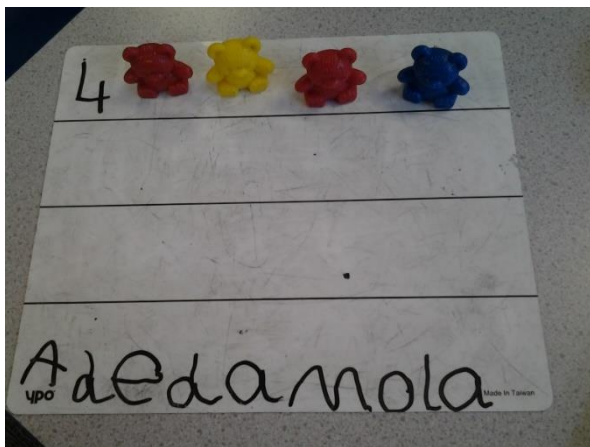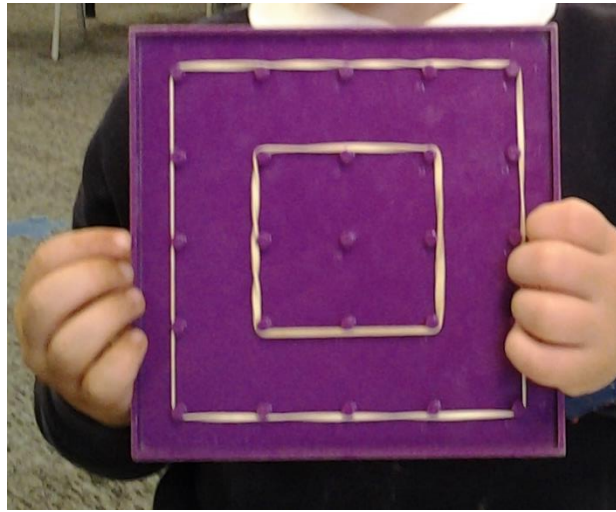
$$34 + 66 =$$

We use concrete resources in FS1 and FS2.
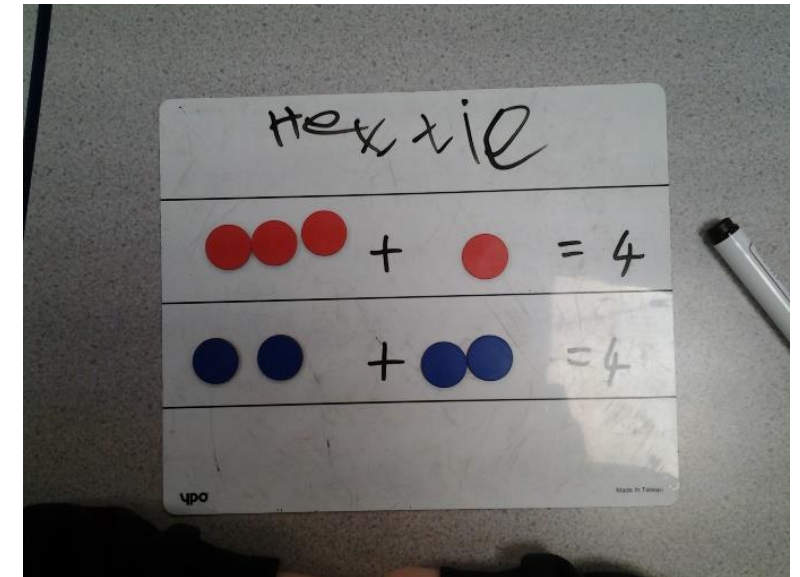
We use the outdoors to support maths learning by finding objects and counting them. We find one more or less than the objects we have collected. We find things that are taller and shorter than ourselves.
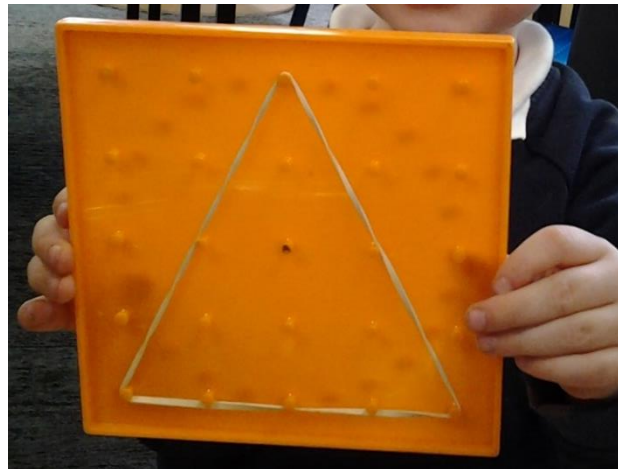
Making and finding shapes

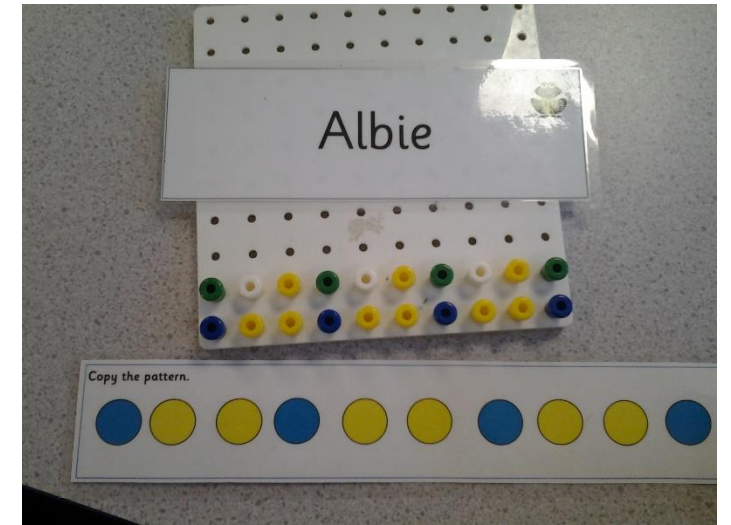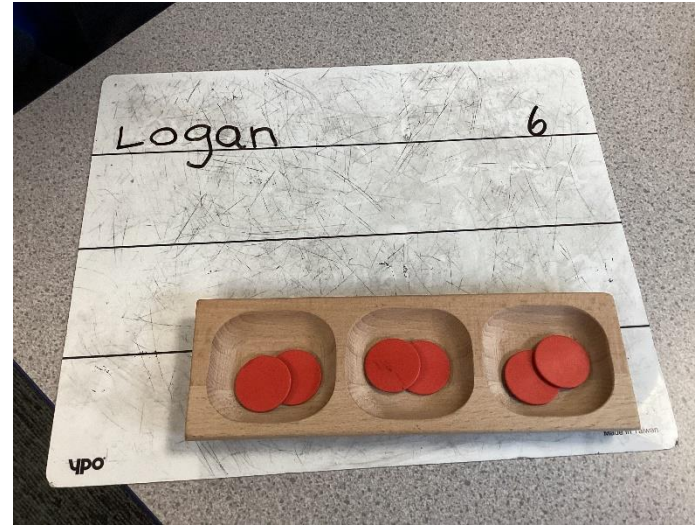Using geo-boards to make shapes.
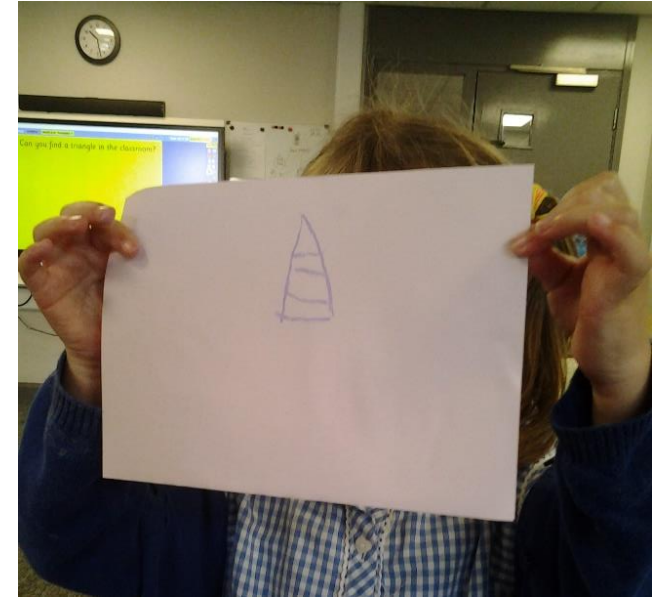
Drawing shapes.

Finding shapes in the environment.

Each room has a Maths Area for independent learning.

Ordering pumpkins by size.
Sharing 6 counters between 3.
Making and copying repeating patterns.
Matching numerals to make the total 10.

Mastering Number

This year, we have started a new maths programme called Mastering Number.

This project aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2. The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention will be given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future

Mastering number sessions last around 15 minutes and are in addition to the regular maths lesson. During these sessions, children will sometimes use a rekenrek (you may know this as an abacus) to support their learning.

If you would like to know more about the Mastering Number Programme, please follow the link below.
https://www.ncetm.org.uk/maths-hubs-projects/mastering-number-at-reception-and-ks1/

Examples of maths resources used in FS1 and FS2...

Resources you can use at home...

Counters

3D shapes

Counting bears

Or you could use ⇨

Or you could use ⇨

Or you could use ⇨

Smarties

Food packaging

Anything you have a lot of!

Resources you can use at home...

Pasta shapes for counting

Toys to put in size order

Playing cards for number recognition

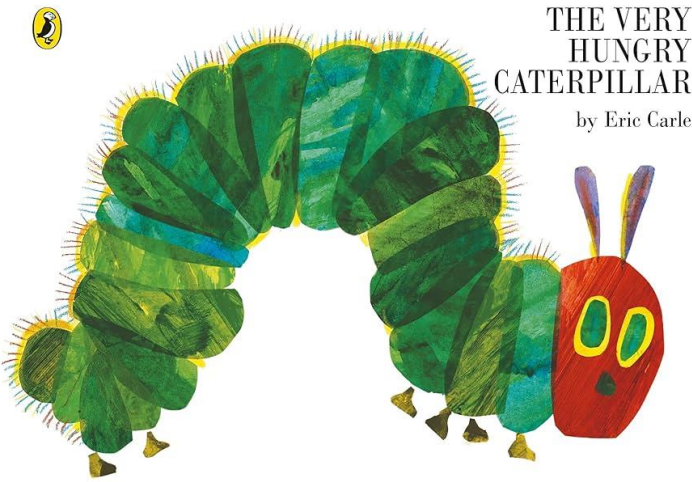Money for counting or creating your own money problems

Recognising that numbers are all around us...

How can you support your child at home?

- Reassure and praise whenever possible.
- Break a problem down into more manageable parts.
- Use maths in everyday routines at home and involve children in this process e.g. portioning meals, cutting vegetables into halves, quarters etc.
- Encourage games that use shapes and numbers
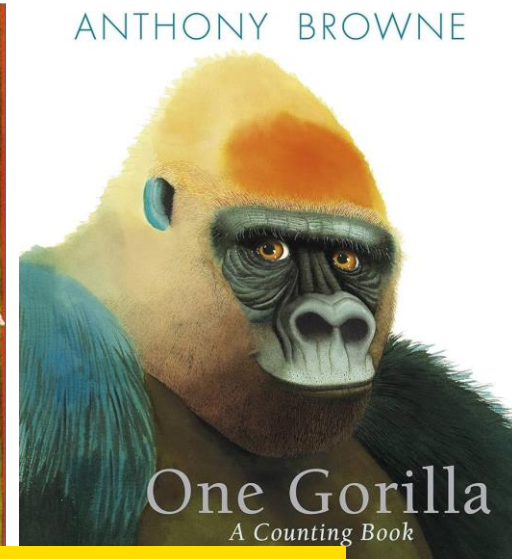- Recognise the importance of maths in everyday life e.g. telling the time and managing money

Books can be a great way to explore different aspects of number. Below are few recommended books (as recommended by NRICH). https://nrich.maths.org/14111

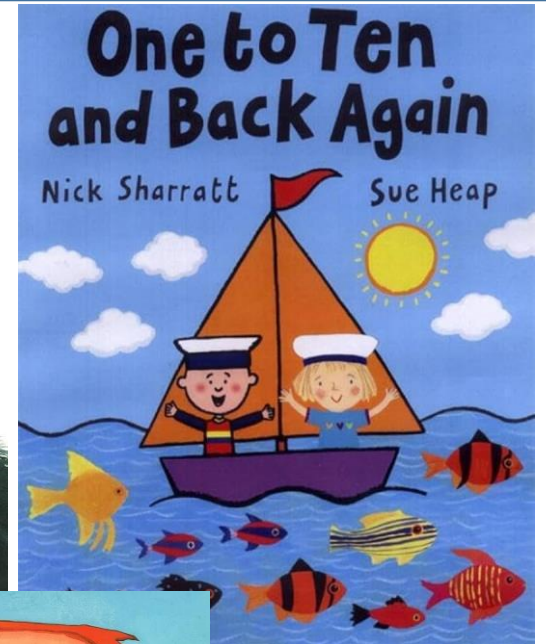# Ideas for everyday maths opportunities...

Count - steps up the stairs, money into a money box etc.

Ask children to say how many without counting (5 or fewer)

Play games using dice/dominoes and encourage child to say how many spots without counting.

Hide numbers around the house or garden for children to find.

Read books with maths concepts eg The Very Hungry Caterpillar, One is a snail, ten is a crab, What's the time, Mr Wolf? The doorbell rang.

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.

Watch Numberblocks on Cbeebies. This programme is written by maths specialists to model maths concepts and represents number brilliantly.

Websites to Support Children's Maths Learning at Home:

Cbeebies - https://www.bbc.co.uk/cbeebies/topics/numeracy

Maths Zone - https://mathszone.co.uk/

BBC Bitesize - https://www.bbc.co.uk/bitesize/subjects/z826n39

I See Maths - https://www.iseemaths.com/games-resources/

Hit the Button - https://www.topmarks.co.uk/maths-games/hit-the-button

Thank you for taking the time to attend the workshop today.

We hope you have a GREAT time supporting your child with maths.