

# Maths Workshop – Early Phase

Wednesday 8th March 2023

# Aims



- ▶ To understand what your child need to be able to do mathematically as they move through the phase
- ▶ How we approach the teaching of mathematics
- ▶ What are the common areas of concern / misconceptions
- ▶ Things that you can do to support your child to build the key skills



# Your child's mathematical learning journey

- Children begin their journey as mathematicians in Early Years. They use inside the classroom and the outside areas to explore what numbers mean using the counting principles. They listen to stories based around numbers and engage with the Numberblocks characters as they investigate numbers up to 5. They are encouraged to start reasoning and problem solving using mathematical talk.
- As They progress through the school, they continue to gain a deeper understanding of number and how different operations link to each other. They use a Concrete (objects) – Pictorial (drawings) – Abstract (formal methods) approach to learning new concepts which allows everyone to succeed and boosts confidence in explaining methods. Children are encouraged to use technical mathematical vocabulary from the start of their journey and to share what we have learnt with others.
- Classes mostly all work on the same objectives, with support for those who need it, and extra challenges for those who grasp something more quickly. Our hands on and practical approach aims to support children to get a love of maths and become life-long learners.
- It is best when Maths is seen as a building project. Each new thing that we learn builds upon something we have learnt before. As we learn more, our foundations become stronger and our building grows taller.



# Routine of the day(maths)

**Nursery-** almost all through continuous provision and individual conversations

Storytime books chosen to offer mathematical thinking opportunities

**Reception-** daily start up routine

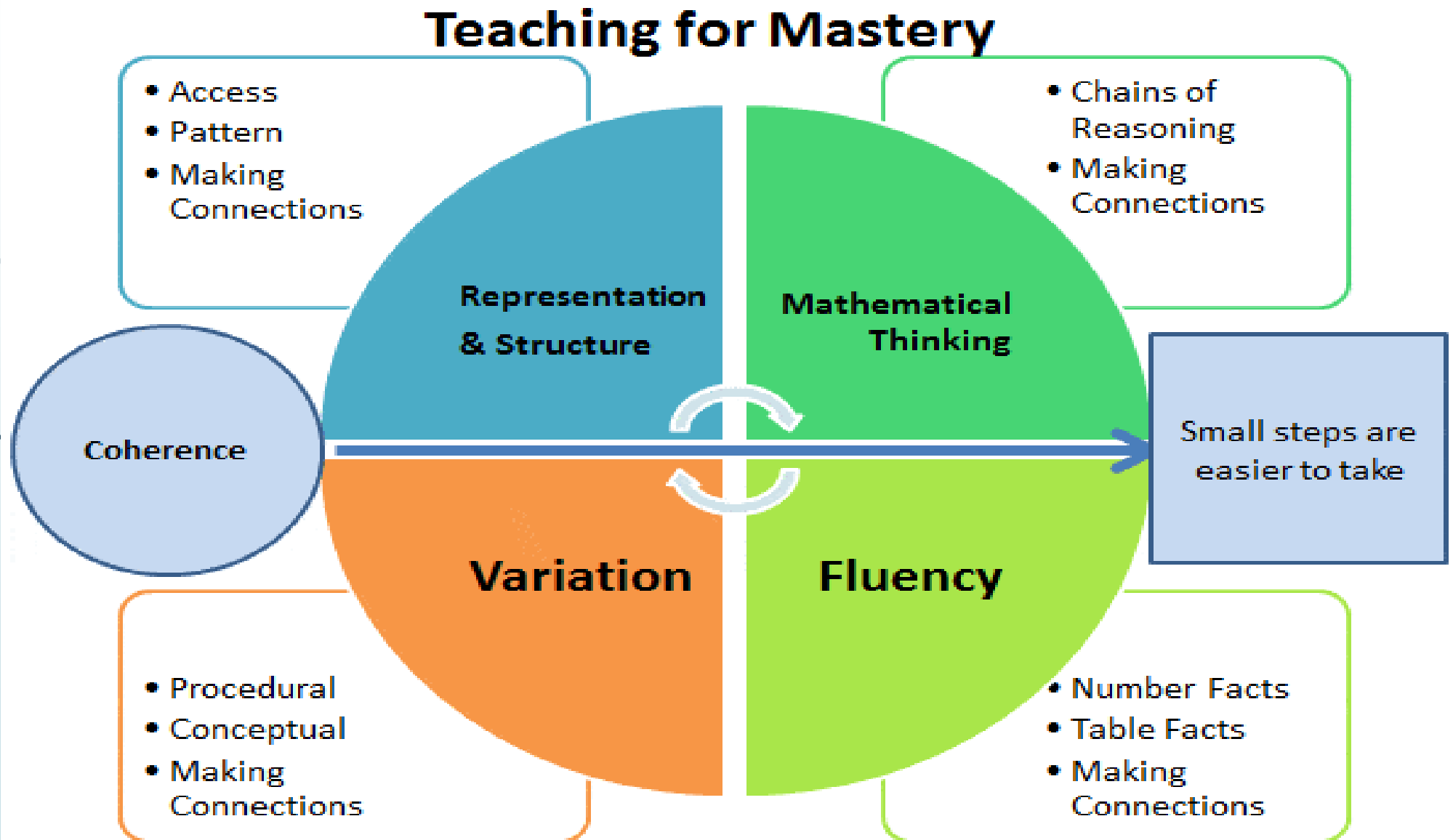
Maths carpet time daily with follow up for a group

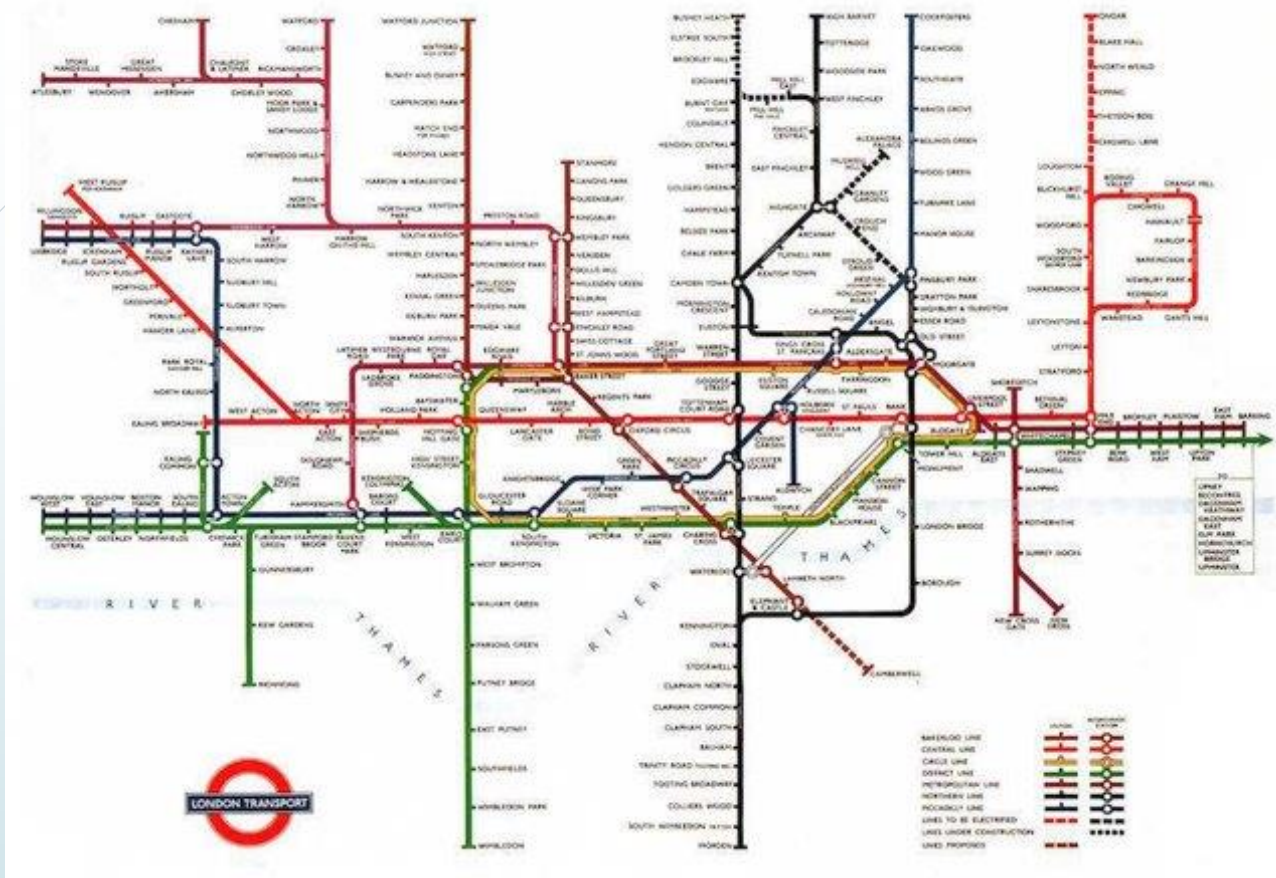
Continuous provision in and outside

**Year 1-** early morning or after lunch settling activities

Regular whole class maths input followed by differentiated group activity/ies

# How do we teach mathematics?





Fluency- counting stations from A to B


Variation- finding different ways to get to from A to B

Representation and patterning- choosing how to record routes

Can you spot any patterns?

Mathematical thinking - Have you done it the best way? How can we say this mathematically?





**Basic skills** focus on developing mathematical fluency of key knowledge for each unit of maths. These key skills are taught through short, repetitive sequences of *counting* in different forms, *learning* by spotting patterns and making connections to known facts, and finally *applying* the skills in different contexts. By mastering this skills, children are then equipped with the freedom to explore more complex mathematical concepts confidently.



**Problem solving skills** are taught with the aim of not only preparing children to apply their mathematical skills in different contexts, but to also prepare them for challenges in their everyday life. By working creatively and collaboratively, trying different strategies and methods, our children develop the perseverance and resilience necessary for increasingly complex problem-solving. Through emphasising speaking and listening skills, we also encourage our children to focus on the process rather than the answer and to use precise and sophisticated mathematical language to explain and justify their solutions.



**Curriculum Progression:** At the beginning of the year, each year group teacher is given a long-term overview of the mathematics units for the year. This ensures all concepts are built on previous knowledge so that foundations are fully secure. Children spend longer on key mathematical concepts, most noticeably number. Significant time is spent developing deep knowledge of the key ideas that are needed to underpin future learning

## KEY OBJECTIVES

### CURRICULUM OVERVIEW- learning letter

# Common misconceptions / problems

- Counting by rote but not really understanding the principle of counting 1:1, that is, not stopping at the last number in the group
- Conservation of number is not fully established
- Lack of conceptual understanding-for example, not knowing that 4 is close to 6 but 15 is much bigger, telling the time from a clock face but not knowing how that relates to the day
- Not recognising that  $3 \times 2$  gives the same answer as  $2 \times 3$
- Thinking that children will know and retain more if they learn and record formal notation methods
- Removing practical or real life examples too soon Eg) looking at  $\frac{1}{4}$  without first having plenty of practice dividing up one sandwich into quarters or sharing a bunch of grapes into 4 so they have group/ quarter each
- Teaching + - x / before letting children play, discover and explain their thinking as they manipulate real objects.





# How can you help?

- Be familiar with the curriculum
- Make maths fun and useful by recognising opportunity within everyday situations
- Maximise talk -Get your child to tell you what they already know / understand and encourage explanation (I think this box is heavier because... )
- Minimise formal notation – ask your child to think of their own way of recording what they did/found out. Let them talk to you about it. Can you work together on a more efficient way?
- Use songs and fingers to play with numbers
- Don't forget shapes, measures and pattern as equally important mathematical skills
- Use Kilmore's [calculation policy](#) to support with methods in year 1



Short clip  
videos of  
activities at  
home –  
Nursery to  
year 1

- ▶ <https://mathsathome.lgfl.org.uk/eyfs.html>
- ▶ [https://mathsathome.lgfl.org.uk/y1\\_fractions.html](https://mathsathome.lgfl.org.uk/y1_fractions.html)
- ▶ [https://mathsathome.lgfl.org.uk/y1\\_geometry.html](https://mathsathome.lgfl.org.uk/y1_geometry.html)

# What can we learn from apples?

- ▶ Shape naming, properties and links to environment
- ▶ Measurement of which can roll the furthest- comparison, non standard and standard measures, dependent on child's developmental age
- ▶ Sorting according to child's chosen criteria eg colour/size(weight)
- ▶ Counting 1:1
- ▶ Pattern/arrangement of segments or as challenge, seeds(arrays)
- ▶ Halves and quarters
- ▶ Importance of fractions being equal in size
- ▶ Sharing- have we got enough? How many more needed extra do we have?
- ▶ Descriptive vocabulary, physical skills to cut and roll or catch and throw.



## Activities at home

- Set up a play shop with your child's toys or different shapes or items for a recipe you have researched together- swap roles as shop keeper and customer-
- Ensure all items cost less than 10p in Reception/ 20p in yr1 so you can focus on how many ways the cost can be made out of **real** coins available.
- Roll 2 dice- How many different calculations can you make from the two numbers? What numbers are missing between the higher and lower number?
- Turn over two cards and use to add or subtract together. Which card would come before/ after the turned cards? Which other card would be needed to make the higher card value if using the lower value card to start?
- Set the oven timer and starting when 5/20 mins are left, can you see how many minutes and seconds are still to go? What is happening to the numbers? Why?
- On a rainy day, sit at the window and do a traffic count- let your child decide categories and how they record. They will probably learn more if you do it alongside them, you adding a tally and more categories and then comparing the two charts. Sharing learning; not being told is a more memorable experience.
- Playing with a variety of containers in the bath, predicting and testing which will hold more/ less the same. to practise measuring . Some of these could be measuring jugs and attention drawn to the numbers. Your child will only be interested if they have fully explored water play already!

# Useful maths websites

These sites have an excellent range of activities and games for most topics.

- **Top Marks**

- <https://www.topmarks.co.uk/maths-games/3-5-years/counting>

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

- **Cool Maths 4 Kids** – also includes lessons/explanations/brain teasers

- <http://www.coolmath4kids.com/>

- **White Rose at Home** - you will need to select year group, click on 'view' followed by the far right video symbol shown and open slideshow in top menu bar

- <https://whiterosemaths.com/homelearning>

- **Maths is fun** - Range of explanations(for parents) and online activities

- <https://www.mathsisfun.com/numbers/index.html>

- **NCETM number blocks at home**

- <https://www.ncetm.org.uk/classroom-resources/ey-numberblocks-at-home/>