

Mathematics Development in Reception

In Reception we follow the Statutory Framework for the Early Years Foundation Stage (EYFS). This document sets out what children are expected to achieve in all subjects, including Mathematics, by the end of their time in Reception.

The framework outlines what the children should learn in Mathematics and why:

'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.'

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/896810/EYFS_Early_Adopter_Framework.pdf

In addition to the Statutory EYFS Framework there is non-statutory 'Development Matters' guidance which sets out development stages for children from birth to Reception age. It offers a view of how children develop and learn and suggests checkpoints to monitor development.

Pupils are assessed against the Early Learning Goals at the end of their academic year in Reception and in Mathematics the ELG's are Number and Numerical Pattern. Pupils are assessed as either ELG Emerging or ELG Expected.

Planning

At Glen Hills we use the EYFS framework and the non-statutory 'Development Matters' guidance when planning for maths and have developed our scheme of work in line with White Rose Maths.

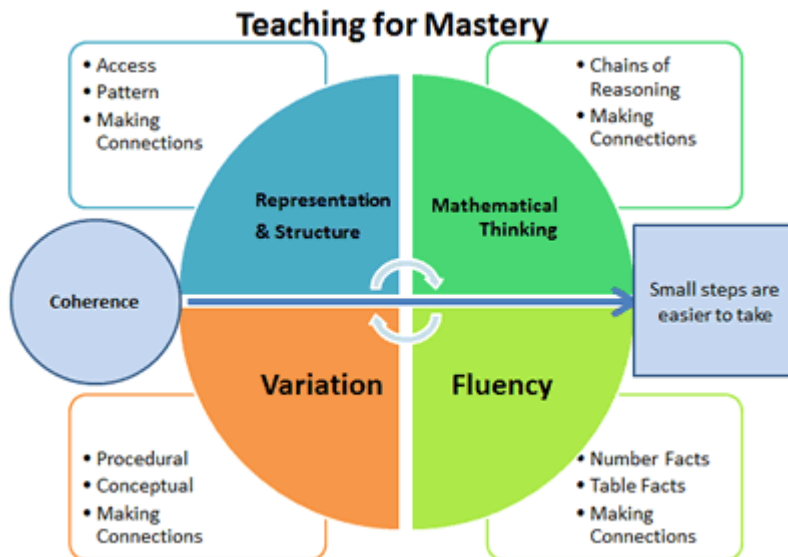
Autumn Term	
Unit	Focus
1) Just like Me	Matching, sorting and comparing amounts Comparing size mass and capacity Exploring and describing pattern
2) It's Me 1,2,3	Counting Representing and comparing 1,2 & 3 Composition of numbers 1,2, & 3 Investigating describing and identifying circles and triangles Using and understanding positional language
3) Light and Dark	Representing numbers to 5 Exploring and recalling one more and one less

Spring Term	
Unit	Focus
4) Alive in 5	Introducing zero Composition and comparison numbers to 5 Introduction to addition and subtraction linking to combining/more and splitting/less Comparing mass (2) Comparing capacity (2)
5) Growing 6,7,8	Represent and compare 6,7,8 Composition of 6,7,8 Making pairs and counting in 2s Introduction to odd and even Exploring measuring – length and height Exploring time – measuring time and sequencing events/days
6) Building 9 and 10	Represent and comparing 9 and 10 Composition of 9 and 10 Comparing numbers within 10 Ordering numbers to 10 Number bonds to 10 3D shape Pattern (2)

Summer Term	
Unit	Focus
7) To 20 and Beyond	Building numbers beyond 10 Counting patterns beyond 10 Spatial reasoning Shape – Match, Rotate, Manipulate
8) First, Then, Now	Addition Subtraction Spatial reasoning Shape – Compose and decompose
9) Find my Pattern	Doubling Sharing and grouping Even and Odd Spatial reasoning Shape – visualise and build
10) On the Move	Deepening understanding of numerical concepts Numerical patterns and relationships Spatial reasoning Mapping

Mastery of Maths

An important part of developing children's mathematical ability is to develop mastery of skills and knowledge. The diagram below shows the areas in which we are developing children's Mathematical ability.



(<https://www.ncetm.org.uk/teaching-for-mastery/mastery-explained/five-big-ideas-in-teaching-for-mastery/>)

The reasoning for focussing on mastery of numbers up to 10 in Reception is because:

- Significant time is spent developing deep knowledge of the key ideas that are needed to underpin future learning. The structure and connections within the mathematics are emphasised, so that pupils develop deep learning that can be sustained.
- Key facts such as multiplication tables and addition facts within 10 are learnt to automaticity to avoid cognitive overload in the working memory and enable pupils to focus on new concepts as they begin to work with bigger numbers.

Mastery is encouraged through careful questioning and encouraging children to apply their knowledge and problem solve. We also encourage children to use language to demonstrate their understanding of concepts and to discuss what they find when problem solving.