

Lyneham Primary School Maths Policy

Introduction

The purpose of this document is to ensure that the National Curriculum for Mathematics 2014 is implemented in a consistent manner throughout the school. In September 2016 Lyneham started delivering a mastery based approach to Maths teaching developed through the cluster working group and supported by the White Rose Maths Hub work on curriculum structure.

Aims

Our chief aim when teaching mathematics is to ensure children successfully progress through the different stages of understanding:

- Concrete - The enactive stage - a student is first introduced to an idea or a skill by acting it out with real objects. In division, for example, this might be done by separating apples into groups of red ones and green ones or by sharing 12 biscuits amongst 6 children. This is a 'hands on' component using real objects and it is the foundation for conceptual understanding
- Pictorial - The iconic stage - a student has sufficiently understood the hands-on experiences performed and can now relate them to representations, such as a diagram or picture of the problem. In the case of a division exercise this could be the action of circling objects.
- Abstract - The symbolic stage - a student is now capable of representing problems by using mathematical notation, for example: $12 \div 2 = 6$. This is the ultimate mode, for it "is clearly the most mysterious of the three."

Teaching Context

Within the mastery based approach to Maths at Lyneham we have developed a lesson structure which helps build core skills, and understanding. Within this structure we provide children with the opportunity to gain core knowledge and conceptual understanding while also being provided with the chance to broaden and deepen their understanding of through a range of learning activities which lead to application, problem solving and reasoning.

There will be recordings of Maths work every day. This recordings will be marked in line with the schools making policy.

Bar Method

Within the teaching of the mastery based Maths curriculum at Lyneham we will teach children how to represent a range of mathematical problems using the Bar Method. This will be taught throughout the school. This model will be used to provide the children with a tool to represent and work through questions and problems – it will not become a trick children can use when they do not understand the underlying Maths.

Maths manipulatives

At Lyneham we believe that there are different stages of learning Maths (concrete, representational and abstract). During the concrete stage of learning we will use manipulative to help children represent their Maths. To aid with this in class we have the following resources in school (this list is not an exhausted list)

- Place Value Counts
- Numicon

- Cuisenaire rods
- Base 10/Deans blocks
- Representation coins
- Clocks
- Fraction sets
- Multilink cubes

Access to resources should be a fundamental right for every child at Lyneham Primary School. Classes should have them freely available for children to use at any point during their lesson. Children will need to be discreetly taught how to use the above manipulatives and should be used, collected and applied to their work.

Assessment & Target Setting

As set out in the Assessment Policy the main form of assessment for Maths will come from ongoing teacher assessment within lesson and as an outcome of marking & feedback. Built into the White Rose Maths Hub are three summative assessment test, split into one arithmetic and one reasoning, per year group. These assessments should be delivered during the assessment weeks outlined in the assessment policy and year calendar. The outcomes of these test should be used to further populate the Classroom Monitor assessment grid of children. From these assessments teachers will set targets for children’s learning every term.

How do our children learn Maths in EYFS at Lyneham?

Mathematics is made up of two aspects, Number and Shape, Space and Measure.

They involve providing children with opportunities to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shapes, spaces and measures.

This area supports children’s understanding in different situations by providing opportunities to explore, practice, learn and talk. They practice skills and gain confidence and competence. To give children the best opportunities through Positive Relationships children use mathematical words and ideas in their play. Enabling Environments have resources for counting, calculating and shape available indoors and outdoors. In Learning and Development, stories, songs and imaginative play help with mathematical understanding.

In order to help children achieve the Early Learning Goals (ELGs) for Mathematics (end of Reception expectations), daily carpet sessions linked to objectives from the Early Years Outcomes document are planned for. Learning is planned to be practical, engaging and multi-sensory.

ELG 11- Numbers	ELG 12- Shape, Space and Measures
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 two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.	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.

Opportunities are also sought to promote:

- Cross-curricular play based activities in the maths area and outdoor environment.
- Lots of talk (both during adult led tasks and child initiated play).
- Thinking (both with peers as well as adults who move learning and concepts on).
- Self-discovery.
- Problem solving.
- Use of manipulatives or concrete resources.
- Questioning skills.

Appendix needed

Calculation Policy

Maths Passports

Learning Environments

Lyneham Primary School Scheme of Learning

Planning Sheet