Longmoor Primary School

Maths Policy

2024 - 2026

Chair of Governors **Signature:** *Jane Wright*	**Date: 7th May, 2024**
Chair of Governors **Signature:** *Jane Wright*	**Date: 5th May, 2021**
Chair of Governors **Signature:** *Jane Wright*	**Date: January 2019**
Chair of Governors **Signature:**	**Date:**

The Importance of Mathematics

Mathematics is an integral part of everyday life. At Longmoor Primary School we seek to equip children with the tools they need for an ever-changing world. Through exploration and investigation, we provide children with: an appreciation of the power of mathematics; the foundation for understanding the world around them and develop a sense of curiosity which lasts a lifetime, and will help them contribute to the world.

Aims of the Maths Curriculum 2014

- To become **fluent** in the fundamentals of mathematics. Pupils develop conceptual understanding through varied and frequent practice of increasingly complex problems so they are able to recall and apply their knowledge rapidly and accurately.

- To **reason** mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

- To **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

In order to achieve the aims of the new curriculum we have adopted the Mastery approach to maths. We use Power Maths, Classroom Secrets and White Rose Mastery resources.

Our Approach to Mastery Maths

- Objectives are broken down into **smaller steps**.
- Teachers can spend as long as they feel is necessary on each step.
- **Number** is the starting point for learning in each year group.
- Every sequence of lessons provides children with the opportunity for **problem solving and reasoning**.
- Children are introduced to a concept through a **concrete – pictorial – abstract** approach.
- The use of **manipulatives** and **representation** of maths in pictures and words is encouraged.
- The approach should enable as many children as possible to access the expectations of the learning.

Early Years Foundation Stage

In EYFS (nursery and reception) we follow the Statutory EYFS framework of Number and Numerical Pattern. Mathematics is taught through an integrated approach using material from NCETM Mastering Number to cumulatively secure firm foundations in the development of good number sense for all children from Reception as they transition into Year 1. This is achieved through daily directed teaching sessions and through periods of play inside and outside the classroom. The children have a wide range of purposely planned activities and resources which focuses on cardinality, counting, comparison and composition of number and developing understanding of pattern, shape and space and measures which are available to them throughout the year - known as "continuous provision". The

adults model the use of these resources and the appropriate mathematical language and questioning to support the children in their play.

Maths in Nursery focuses on the development of perceptual and conceptual subitising, cardinality and counting skills as well as early composition of numbers. Children explore simple patterns with shapes, everyday objects, amounts and numbers and simple measures. Children are taught maths through daily carpet time where pupils engage with practical activities, stories, songs and games and explore maths using a wide range of natural and man-made manipulatives. Activities may be indoors or outdoors enabling children to explore maths in the real world. We provide opportunities and support children to embed taught concepts and solve problems within the provision, through daily routines and through the environment. Adults seek out pupils who need additional support and provide this through play. The rich environment and provision provide pupils with a wide range of opportunities for mathematical development enabling children to revisit each key area of early maths

Mastering Number in EYFS and KS1

Across Reception and through to KS1, we have implemented a new and exciting Mastering Number maths project. Our overarching aims are for children to:

- Make good progress towards the Early Learning Goals.
- Be confident in communicating their ideas.
- Develop a positive attitude towards maths and be willing to 'have a go'.

Our mastering number sessions cover all of the number work that will support the children to meet the Early Learning Goals, National Curriculum Expectations and the learning trajectories that build children's understanding and help them make connections between different mathematical concepts.

Planning

We have adopted the White Rose Maths Scheme of Learning for Mastery Maths which provides small steps guidance for teachers. The scheme is structured as follows:

- Objectives are grouped into 4 areas of maths: Number, Geometry, Measurement and Statistics.
- These areas of maths are then broken into separate blocks including:
  Number: Place Value, Addition and Subtraction, Multiplication and Division, Fractions, Decimals and Percentages, Algebra and Ratio.
  Measurement: Money, Length and Height, Time, Mass, Capacity and Temperature.
  Geometry: Properties of Shape, Position and Direction.
- Blocks are between 2 and 5 weeks long.
- Objectives in each block are broken down into small steps.

We also use alternative resources to supplement White Rose which give further examples of small step fluency and problem solving and reasoning. These resources also provide teachers with the opportunity to adapt learning to meet the needs of all pupils. Each lesson is enhanced with further challenge tasks beyond White Rose Maths to stretch and challenge all pupils enabling them to reach their full potential, particularly those working at a Greater Depth level.

See Maths page on the website for year group overviews.

Structure of Lessons

Maths is taught for 5 days a week and lasts at least 1 hour per day. In all lessons, the learning objective (LO), success criteria and key vocabulary are clearly displayed and discussed.

Each lesson incorporates the following elements:

- Revisiting prior knowledge.
- A starter/warm up activity based on mathematical fluency
- Teaching and modelling of varied fluency, in which children look at the learning in a variety of ways in order to embed the concept. This is achieved through the use of talk, concrete manipulatives and pictorial representations which are important at this stage before leading on to more abstract concepts.
- All pupils are exposed to a variety of age-related problem solving and reasoning questions (each lesson) in which children apply concepts in a variety of ways.
- Each lesson provides children with the opportunity to reflect upon their own learning by self-assessment against the lesson's success criteria.

Teachers are encouraged to ensure each mathematical construct is secure and embedded before they move on. It is important that children are not introduced to too many concepts too quickly and that sufficient time is spent developing fluency before moving on to problem solving and reasoning.

Calculation

The Calculation Policy sets out the key written methods to be used by all children for addition, subtraction, multiplication and division. Written methods are based on fluent recall of mental methods and key number facts. These methods are an important part of the curriculum with the application of progressive stages in calculation through the school which is key to a child's success in arithmetic.

The document is broken into 4 sections; EYFS, Key Stage 1, Lower Key Stage 2 and Upper Key Stage 2. At the start of each section is an overview of the expectations for each key stage, key vocabulary and a breakdown of the calculation objectives taught for addition, subtraction, multiplication, division and fractions. Each calculation objective is broken down into concrete, pictorial and abstract representations for each year group. The consistent use of a concrete, pictorial, abstract approach is a key aspect of developing Mastery maths so all children secure efficient methods which they can use and apply to a variety of contexts and problems.

ICT

A range of ICT will be used to support teaching and stimulate learning. These include:

- Interactive Whiteboards
- Laptops
- iPads
- Mathletics – online learning website
- Times Table Rock Stars – online learning website
- Seesaw - online learning platform

ICT should enhance good mathematics teaching, providing access to the learning for the children and supporting the teacher's delivery.

Mathletics is used as a learning tool both in school and at home across Y1-6. Teachers can set homework tasks and assess progress against learning objectives.

Times Tables Rock Stars is used to develop fluency in recall of multiplication and division facts across Y2-6. It is used in class, across classes in competitions and at home. This is a valuable tool in preparation for the Year 4 Times Table check. Mathseeds is used by EYFS in school and at home and supports learning of number, shape and measures.

Assessment

Formative assessment is used on a daily basis to support pupils in their learning and inform teachers planning. This takes place in the form of questioning, response partners, observations, marking of work, responding on whiteboards, verbal feedback and self and peer assessment.

Summative assessments are carried out at the end of each full term using Rising Stars assessment materials. End of Key Stage Summative Assessments are carried out at the end of Y2 and Y6. These are used in conjunction with the teacher's day to day formative assessments.

See assessment policy for more information.

Reporting

These ongoing assessments will form the basis of the end of year teacher report which will demonstrate whether the child is achieving national expectations.

Monitoring and Evaluation

Planning and books are collected and monitored by the coordinator and members of the senior leadership team to ensure high standards are maintained.

Observations and learning walks in maths are conducted to ensure that provision in class is of a high standard and the curriculum is taught with rigour.

Following all monitoring and observations, feedback is given directly to the teacher or the team leader in order to support development and ensure standards are maintained.

Inclusion

All children will be involved in daily mathematics sessions. Children who require additional support in order to access learning can be supported through use of quality first teaching strategies such as effective questioning, adapted/scaffolded activities, adult support and the use of practical resources and ICT.

Interventions

Children who require additional support or who need further challenge are supported in the class through adaptation, scaffolding and the use of additional resources. When necessary, additional interventions are provided to support children 1 to 1 or in small groups. The purpose of these is to identify gaps in learning which can be bridged through pre-learning tasks or stretch children to deepen their understanding through problem solving activities.

Cross curricular links

Opportunities to link mathematics across the curriculum, particularly in science, DT, topic and PE, are sought when the experience enriches the children's learning of mathematics. Investigating, applying and discussing maths in real contexts is important when becoming fluent in recognising mathematics as an interconnected subject. Opportunities for outdoor learning and Active Maths are encouraged.

Classroom Environment

Every classroom has a mathematics display which features key vocabulary, number facts and other visual prompts and visual resources which support the children's learning. Working walls are used to support independent working and learning. The working wall needs to be added to in lessons and used as a teaching resource. It should reflect the current teaching and learning sequence over the duration of specific units of work. The classroom environment evolves and is interactive as the children's learning progresses.
Mathematics resources are maintained termly within the maths budget. Each classroom has its own concrete manipulatives resource bank for daily lessons and there is a central resource area in the STEM room for additional resources.

CPD

Part of the role of the maths coordinator is to maintain his or her own CPD through courses, training, curriculum meetings and e-learning. Relevant CPD will be disseminated through INSET days, staff meetings and curriculum meetings in order to maintain good practice across the school.