

**Long Clawson
Church of England Primary School
MATHEMATICS POLICY**



Approved by the Governors of Long Clawson CofE Primary School

Date: November 2023

Chair of Governors: _____

Date:

Next review due by: Autumn 2026

RATIONALE

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology, engineering and necessary for financial literacy and most forms of employment.

All pupils can achieve in mathematics! At Long Clawson CofE Primary School, it is our belief that pupils are not learning to be mathematicians but that they are mathematicians.

This document is a statement of the intent, implementation, and impact for the teaching and learning of Mathematics at Long Clawson School. Mathematics is a core subject, and this policy has been written in accordance with its statutory requirements.

'Mathematics is a creative and highly inter-connected discipline...a high-quality mathematics education should provide a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity.' (National Curriculum for Mathematics, 2014)

INTENT

We aim to equip pupils with the tools to understand Maths. These tools include reasoning, problem solving and the ability to think in abstract ways. Mathematics is integral to all aspects of life; with this in mind, we strive to ensure that our children develop a healthy and enthusiastic attitude towards mathematics that will stay with them and support them in the next stage of their education and beyond.

At each stage of learning, children are actively supported to reach their full potential as mathematicians.

The National Curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships, and generalisations, and developing an argument, justification or proof using mathematical language.
- can 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.

IMPLEMENTATION

There is an expectation that most pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems, promoting a deeper level of understanding, before any acceleration through new

content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice (intervention) before moving on.

All teachers follow a termly overview plan and are encouraged to design lessons using a range of resources, including, but not limited to, the White Rose Maths Scheme of Learning. Those teaching in EYFS and Years 1 and 2, also follow the Number Sense and Number Facts Fluency Schemes.

Maths lessons should be between 40 and 60 minutes, depending on pupils' age. In addition, regular practice of key number facts such as times tables and number bonds should take place to secure learning of these facts.

A typical lesson provides the opportunity for all children, regardless of their ability, to become confident and capable learners. We are committed to building on prior learning and enabling our children to demonstrate a deep, conceptual understanding of each topic that they can develop over time. The children are encouraged to develop fluency in their recall of key facts and a whole school approach to the teaching of calculation strategies is deployed across the school. This ensures a consistent and progressive approach and prepares our children for the upper key stage 2 curriculum. Reasoning and problem-solving skills are explicitly taught to enable children to become independent learners who are prepared to take risks.

Additional time is allocated to arithmetic to ensure key skills in calculation are retained. The teaching of multiplication facts continues to be a discrete focus, where the applications of these skills are essential for accessing other areas of mathematics.

To make the learning relevant, cross-curricular links are made wherever possible and children are encouraged to apply skills from all areas to complete real-life challenges and give learning a sense of purpose.

Maths in Early Years

In EYFS we follow the EYFS framework. Teachers ensure the children learn through a mixture of adult led activities and child-initiated activities both inside and outside of the classroom. Mathematics is taught through an integrated approach using material from Number Sense, White Rose Maths and Numberblocks.

The children have a wide range of structured play resources available to them throughout the year - this is known as "continuous provision". The adults model the use of these resources and the appropriate mathematical language as they support the children in their play.

Across Reception and through to KS1, we have implemented the Number Sense and Number Facts Fluency programmes of learning. 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.'

'Number Sense' sessions cover all the number work that will support the children to meet the Early Learning Goals and the learning trajectories that build children's understanding and help them make connections between different mathematical concepts. Opportunities to learn

about shape, space, and measure are taught separately, and are explored through story, continuous provision, and play.

Maths in Key Stage 1

In Years 1 and 2, the focus of Maths is to ensure the children develop confidence and mental fluency with whole numbers, counting and place value. This often involves working with numerals, words and the four operations (+ - $\times$ $\div$). The children should be precise in using and understanding place value and know number bonds to 20. The children also develop their ability to recognise, describe, draw, compare and sort different shapes.

The children will use a range of measures to describe and compare different quantities (such as length, mass, capacity/volume, time, and money). Long Clawson CofE Primary School uses Number Facts Fluency to support the teaching of basic maths skills. This programme aims to secure firm foundations in the development of good number sense (a deep understanding of number). Each class, in KS1, has a daily 'Number Facts Fluency' session in addition to their daily maths lesson. Over the year, the children will experience using a range of resources and representations, including a small abacus-like piece of equipment called a rekenrek.

Maths in Lower Key Stage 2

In Years 3 and 4, the focus is to ensure the children become increasingly fluent with whole numbers and the four operations (including number facts and place value). Pupils begin to develop efficient written and mental calculations with increasingly large whole numbers. They begin to develop their ability to solve a range of problems, including simple fractions and decimal place value.

The children develop mathematical reasoning to help them analyse shapes and their properties and confidently describe their relationships. Pupils in Year 4 should have memorised their multiplication tables up to and including the 12 times table. They take part in the Multiplication Tables Check (MTC) during the Summer Term.

Maths in Upper Key Stage 2

The principal focus of mathematics teaching in Years 5 and 6, is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division, with fractions, decimals, percentages, and ratio.

At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems.

Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals, and percentages.

Pupils should read, spell, and pronounce mathematical vocabulary correctly.

Our Y6 pupils are prepared for KS2 SATs.

IMPACT

The impact of our Maths curriculum is that at the end of Key Stage 2 our pupils achieve and make progress in line with other pupils nationally, evident through:

- Fluency in their recall of key number facts and procedures.
- Accuracy in the formal calculation methods for all four operations.
- The flexibility and fluidity to move between different contexts and representations of mathematics.
- The ability to recognise relationships and make connections in mathematics.
- The confidence and resilience to reason mathematically and solve a range of problems.

Special Educational Needs (Inclusion)

We ensure that all children irrespective of their ability/disability have access to the mathematics curriculum. Through our teaching, we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's individual needs. Where necessary, adaptations will be made to the curriculum, to equipment and to resources to allow access to maths for pupils with SEN, including provision for pupils who are exceptionally able in mathematics. Where applicable, children's provision maps will incorporate suitable objectives from the National Curriculum or the EYFS curriculum and teachers keep these objectives in mind when planning work. In addition to quality-first teaching, interventions, such as consolidation and pre-teaching take place to support those children who may need more specific targeted input.

Assessment Recording and Reporting

Assessment in maths is on-going. Learning objectives and steps to success are shared with the children in every lesson. Teachers monitor the acquisition of skills, knowledge, and understanding through appropriate teacher intervention, observations, discussions with groups and individuals. Marking also informs teacher judgements as to the learning and understanding that has taken place. It offers opportunities for children to reflect on their learning and supports future learning too. At an age-appropriate stage, children are also provided with opportunities for self/peer-assessment and improvement.

Formal assessment is carried out termly.

Year 2 and Year 6 complete SATs-style papers throughout the year and in the summer term, our Y2's sit optional SATs and the Y6's take part in the national SATs, forming part of their end of KS2 assessment.

Years 3, 4 and 5 are also assessed termly, using NFER tests.

Progress is carefully monitored by class teachers, the subject coordinator, and Head Teacher. Interventions are delivered to address areas of concern.

Parents and carers are invited to consultation evenings during the Autumn and Spring Terms, and they receive an annual report indicating their child's achievement at the end of the Summer Term.

Parents and carers of Year 2 and Year 6 pupils receive their child's SATs results and Year 4 parents/carers receive the result of their child's Multiplication Tables Check.

Calculation

We have a policy for progression in calculation to ensure continuity and consistency throughout the school (**see separate Calculation Policy**). This has been devised to meet requirements of the National Curriculum 2014 for the teaching and learning of mathematics and many of the examples derive from the White Rose calculations policy and tie in with the White Rose schemes of learning used across the school.

Children have access to a wide range of counting tools and apparatus throughout the school. It is important that any type of calculation is given a real-life context or problem-solving approach to help build the children's understanding of the purpose of calculation and to help them recognise when to use certain operations and methods when faced with problems - this is a priority within our lessons.

Children are taught and encouraged to use the following processes in deciding what approach they will take to solve a calculation, to ensure they select the most appropriate method for the numbers involved:

"Can I do it in my head using a mental strategy?"

"Can I use some jottings to help me?"

"Should I use a written method to help me work it out?"

Times Tables

At Long Clawson CofE Primary School, we believe that through a variety of interactive, visual, and engaging techniques, all children can achieve the full multiplication tables knowledge by the time they leave our school.

The new National Curriculum (2014) states that by the end of year 4, pupils should be able to recall multiplication and division facts for multiplication tables up to 12x12. Children in Year 4 are also required to take 'a multiplication tables check' (MTC) in the Summer Term. The purpose of the check is to determine whether pupils can fluently recall their times tables up to 12, which is essential for future success in mathematics. This means it is important for the children to learn their multiplication tables facts and to be able to recall them quickly and accurately.

We teach times tables using the following progression:

Year 1 – Be able to count in multiples of twos, fives and tens.

Year 2 - Be able to recall 2, 5 and 10 multiplication and division facts.

Year 3 - Be able to recall 3, 4 and 8 multiplication and division facts.

Year 4 - Be able to recall 6, 7 and 9 multiplication and division facts.

Year 5/6 - application of multiplication and division facts to problem-solving.

To support children's learning multiplication tables practise is often set as part of weekly homework and the children in KS2 take part in a Multiplication Table Challenge

Homework

It is our school policy to provide parents and carers with opportunities to work with their children at home. These activities may only be brief but are valuable in promoting children's learning in mathematics. Activities are sent home on a regular basis and take the form of maths games, learning of x tables and open-ended investigative tasks. More formal exercises, consolidating work done in class, are likely to be given to older children.

Monitoring and review

The role of the subject coordinator will include:

- Inspiring an exciting and creative approach to maths teaching.
- Monitoring standards through learning walks, book scrutinies and pupil interviews.
- Reporting to parents, governors, and others when appropriate.
- Supporting maths teaching through advice, guidance, professional development and through the provision of suitable resources.
- Sharing information acquired from courses or other sources that may be beneficial to staff.
- Reviewing the maths policy and monitoring its implementation.
- Regularly evaluating the maths schemes of work and amending as necessary.
- The management, maintenance, and storage of resources.
- Providing information meetings/workshops for parents to further develop their understanding of how mathematics is taught within our school.
- Organising pupils' participation in maths workshops and events.