

Langmoor Primary School



Policy for the teaching of Mathematics

September 2023

This policy outlines the teaching, organisation and management of mathematics taught and learnt at Langmoor. Our policy is based on the 'Key Stage 1 and 2 Mathematics Programmes of Study' which forms part of the 2014 National Curriculum in England.

This policy has been drawn up as a result of staff discussion, as well as wider consultation with our MAT and has the full agreement of the Governing Body. The implementation of the policy is the responsibility of all the teaching staff. There is a separate policy outlining the calculation methods that will be taught and practised.

Introduction

This policy should be read in conjunction with the following school policies:

- Calculation policy
- Curriculum Policy
- Assessment Policy
- Marking and Feedback Policy
- SEN and More Able/Gifted and Talented Policies

Context/History

In September 2014, Langmoor Primary School began transitioning towards a mastery approach to the teaching and learning of mathematics. This process is now embedded and we have been supported through the Mathematics Specialist Teacher Programme and the NCETM/Maths Hubs.

The 2014 National Curriculum states that:

- *The expectation is that most pupils will move through the programme of study at broadly the same pace.*
- *Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content.*
- *Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.*



Our Vision for Mathematics at Langmoor

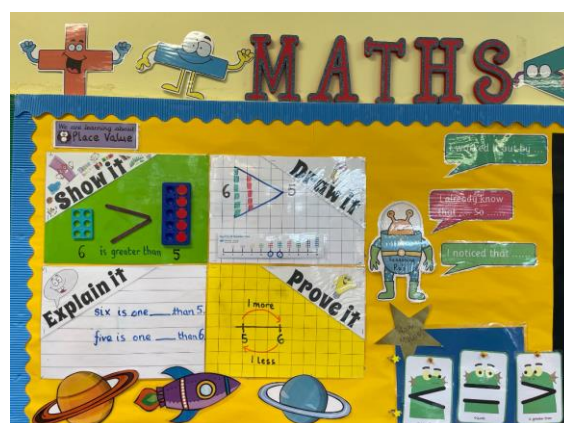
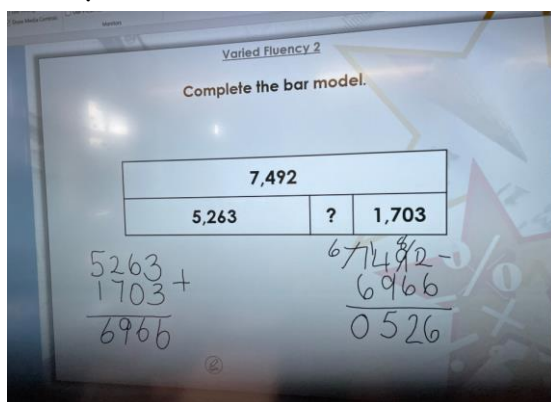
Our Intent

We believe that maths is essential to everyday life and critical to science, technology and engineering and most forms of employment. We know that a high quality mathematics education provides a foundation for understanding the world, the ability to reason and a sense of enjoyment and curiosity for the subject. We endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them.

At Langmoor Primary School, we are committed to ensuring that all pupils achieve mastery in the key concepts of mathematics, appropriate for their age group. Our aims for all pupils are:

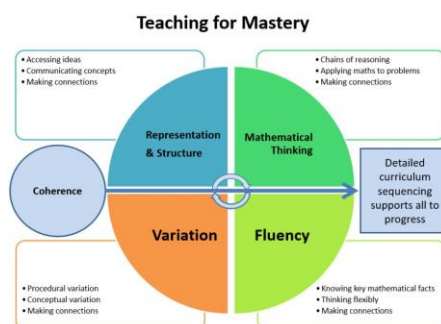
- To become fluent in the fundamentals of mathematics, through varied and frequent practise so that they are able to recall and apply what they have learnt quickly and accurately.
- To be able to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations and developing an argument, justification or proof, using mathematical language.
- Can solve problems by applying their mathematics to a variety of problems.

We deliver a full and challenging curriculum from EYFS up to Year 6, which caters for the needs of all individuals. This provides pupils with the necessary skills and knowledge to be successful at secondary school and beyond



Implementation

- Pupils are taught mathematics through the domains of number, measurement, geometry and statistics through the 2014 National Curriculum.
- EYFS pupils are taught through the EYFS Statutory Framework. Maths is a specific area and our youngest children develop the building blocks to excel mathematically.
- Teachers plan using the White Rose Scheme of Work to sequence the learning into blocks of progressive, cohesive small steps to ensure that the whole curriculum is covered in an order that is driven by research and evidence.
- The school follows a mastery approach which is underpinned by these principles:
 - Mathematics teaching for mastery assumes everyone can learn and enjoy mathematics.
 - Mathematical learning behaviours are developed such that pupils focus and engage fully as learners who reason and seek to make connections.
 - Teachers continually develop their specialist knowledge for teaching mathematics, working collaboratively to refine and improve their teaching.
 - Curriculum design ensures a coherent and detailed sequence of essential content to support sustained progression over time.
 - Embedding 5 big ideas : coherence, representation and structure, mathematical thinking, fluency, variation.



Features of Mathematics Lessons at Langmoor

Years 2-6 have a daily lesson lasting around 45 - 60 minutes. In EYFS and Year 1, pupils participate in 2 maths mornings a week which allows staff to support guided activities and pupils to access the continuous provision activities and challenges with growing independence.

All pupils participate in additional maths learning through the daily Flashback 4 which gives pupils the opportunity to recall and review previous learning.

Pupils in EYFS, Year 1 and Year 2 also participate in NCETM Mastering Number sessions. There are 4 sessions per week aimed at developing early number skills and fluency with basic number facts.

Pupils in KS2 do additional fluency sessions, focusing on multiplicative facts, using TT Rock Stars, 99 Club and addressing identified areas of difficulty.

- Lessons begin with a review of previous learning before beginning new learning.
- A range of reasoning resources are used to challenge all children and give them the opportunity to reason with their understanding.
- Children are given the opportunity to solve problems in a range of contexts and apply mathematical ideas in other subjects, to understand the importance of maths in the wider world.
- Children are given frequent opportunities for mathematical talk and to evaluate their own and others' methods. Precise mathematical language and stem sentences are modelled by adults who ask open-ended, thought-provoking questions that deepen pupils' understanding so that they are able to communicate their reasoning and thinking effectively.
- Pupils understand that making mistakes is okay. They have the confidence to 'have a go', develop resilience and have a growth mindset to persevere.
- All pupils are expected to achieve the same learning however the depth will be varied. Teachers have high expectations and all children are expected to succeed and make progress from their different starting

points. In most lessons, pupils are not grouped by ability and the learning needs of individuals are addressed, through careful scaffolding and targeted questioning to support or deepen understanding.

- Pupils are given adequate opportunities to practise and consolidate their learning before moving on to the next step.
- Gaps in understanding are identified quickly and intervention is rapid through 'grab and go' sessions to prevent them falling behind.
- Misconceptions are planned for and addressed quickly with the whole class or specific individuals.
- Learning environments are used to support pupils in lessons, including interactive working wall displays.
- Manipulatives and visuals are carefully selected and modelled to expose the structure and support understanding.
- Key number facts are learnt to automaticity and other key mathematical facts are learned deeply and practised regularly, to avoid cognitive overload and allow pupils to focus on new learning.
- Homework is set regularly to review children's learning, consolidate skills and apply learning in real-life situations. Knowledge organisers are provided for parents to support this.
- Where possible, links are made between mathematical domains, with other subjects across the curriculum and to the wider world.
- Teachers continually monitor and assess individual pupils' understanding and progress against the expected standards for their year group



Impact

At Langmoor you will see:

- Pupils achieve to the best of their ability and reaching their potential in maths.
- Pupils understand the relevance and importance of what they are learning and know that maths is essential to everyday life.
- Pupils have a positive attitude towards maths and their own learning.
- Pupils have a good awareness of their strengths and targets for development.
- Confident children who can all talk about Maths and their learning and the links between Mathematical topics.
- Pupils show mastery in all the domains of maths, having a secure long term, deep and adaptable understanding of concepts that they can apply to different contexts.
- Pupils demonstrate quick recall of facts and procedures.
- Teachers with good subject knowledge who know their children well and what they need to be learning next.
- Lessons make the best use of resources to support learning.
- Books evidence work of a high standard which children take pride in.

8a. Use inverse calculations to find the value of A, B and C in pence.

$$51.35 - B = A$$
$$6,351p + B = \text{£}95.28$$
$$C - 5,261p = B$$

B = 317p
A = 1958p
C = 2428p

9a. Spot the odd one out.

54,259m
23,623m A 5,067m

B = 23,823m + 30,672m
54,295m - C = 30,672m

Explain why.

A because the answer is 23,623, not 54,295

⊙ Fantastic use of inverse operations today Clem.

235

200 35
100 100 30 5
50 50 10 20
10 40 10 10
5 5

417

400 17
200 200 10 7
100 100 5 5 5 2

The Subject Leader

The subject leader (Miss E. Payne) provides leadership and direction, ensuring that it is managed and organised to meet the aims and objectives of the school and the subject and has responsibility for securing high standards of teaching and learning. She will:

- Ensure teachers understand the requirements of the National Curriculum and support them to plan lessons; Lead by example, setting high standards in their own teaching.
- Prepare, organise and lead CPDL as required, with the support of the Headteacher; Facilitates joint professional development - such as lesson studies and coaching.
- Monitor and evaluate teaching and learning by observing teaching, analysing assessment data, conducting work scrutinies and conducting pupil interviews in order to plan whole school improvement in mathematics.
- Take responsibility for managing own professional development by participating in external training, private study, educational research and scholarly reading. Disseminates this to the necessary parties.
- Keep parents informed about mathematical issues.
- Ensure SLT and governors are kept informed about the standards and quality of teaching and learning in mathematics.
- Work co-operatively with the SENCO, More Able Co-ordinator and ICT Co-ordinator to ensure that the learning needs of all pupils in mathematics are met effectively;
- Liaise with other Subject Leaders within the MAT/Teaching Schools/Local Network Group to share good practise.

The Role of the Headteacher

The Headteacher will:

- Lead, manage and monitor the implementation any new initiatives, including monitoring the quality of teaching, learning and planning.

- With the curriculum governor and subject leader, keep the governing body informed about the standards of mathematics in the school;
- Ensure that mathematics retains a high profile in the school's Development Plan;
- Deploy staff to maximise support for the teaching of mathematics;

The Role of the Curriculum Governor

The Curriculum Governor with responsibility for Numeracy will:

- Meet with the Headteacher and Mathematics subject leader to discuss progress and issues arising;
- Talk with teachers and children and observe some daily mathematics lessons as part of the Annual Monitoring Visit;
- Agree a section for the Annual Governors' Report on mathematics with the Headteacher and Subject Leader;
- Support school initiatives to raise the profile of mathematics;
- Be aware of and monitor actions of the school Development Plan.

Reviewed: