Mathematics

At John Mayne C of E Primary our intent is for all children to become confident, resilient, and enthusiastic mathematicians who recognise the importance and beauty of mathematics in the wider world. We want pupils to leave our school able to apply mathematical knowledge and skills to real-life situations, preparing them for the next stage of their education and beyond.

Intent:

Through the White Rose Maths mastery curriculum, we aim for all pupils to:

Fluency: Secure a deep understanding of number and place value, enabling rapid and accurate recall of key number facts and efficient mental and written calculation.
Reasoning: Use mathematical language to explain, justify and prove their thinking, making connections and generalisations.
Problem-Solving: Apply mathematics in a range of contexts, including unfamiliar and real-life situations, breaking problems down into manageable steps and persevering when solutions are not immediate.
Representation & Structure: Build strong conceptual understanding using the **Concrete–Pictorial–Abstract (CPA)** approach, so that learning is embedded and transferable.
Variation: Experience carefully sequenced tasks that allow them to see mathematics in different ways, explore patterns, and make links across topics.

We believe that every child can achieve in mathematics. Our ambition is for all pupils to access the full curriculum together; we use small steps of progression to ensure deep understanding before moving on. Differentiation is achieved through support and challenge, not by reducing expectations.

We want our children to:

Develop resilience and a positive attitude towards mathematics.
Recognise mistakes as part of the learning process.
Appreciate that mathematics is creative, interconnected, and relevant to their everyday lives.
We want our children to experience maths across the curriculum. Examples are measuring in cooking and DT. Graphs and data collection in science. Timelines in history.
Be well-prepared for secondary school mathematics and to use maths with confidence in future learning, careers, and daily life.

Implementation:

Our approach to mathematics is built on a secure understanding of both the curriculum and the subject area. We aim to develop confident, competent mathematicians through a mastery approach that ensures all pupils can engage with concepts deeply and meaningfully.

Planning
Mathematics is a core subject in the National Curriculum. At John Mayne School, we use the White Rose Hub maths plans as the foundation for implementing the statutory requirements of the programme of study. Planning is carried out at three levels:

Long-Term Planning

Aligned with the National Curriculum, ensuring statutory coverage.

Medium-Term Planning

Detailed using White Rose Maths planning, which provides:

- Main teaching objectives (“small steps”) for each term.
- Balance and distribution of work across terms.
- Opportunities for mathematical talk, fluency, problem-solving, and reasoning.
- Teachers use their professional judgement to adapt planning requirements to meet the needs of each cohort.

Short-Term Planning

eekly planning is completed by class teachers, supported by:

- White Rose Maths Hub materials
- Calculation policy

ort-term plans include:

- Specific learning objectives
- Lesson structure and teaching strategies
- Key vocabulary and required resources

Mastery Approach: Concrete, Pictorial, Abstract (CPA)

We follow a CPA approach to deepen understanding:

Concrete – Pupils use manipulatives and objects to explore mathematical concepts.
Pictorial – Pupils represent concepts visually through diagrams and drawings, supporting reasoning and problem-solving.
Abstract – Pupils confidently apply numbers and symbols once the concept is well understood.
All pupils are encouraged to physically and visually represent ideas to build competency and secure understanding of new concepts.

Teaching: Quality First Teaching

Our teaching adheres to high standards and promotes mastery:

Teachers:

Know where their children are – Using diagnostic, formative, and summative assessment, prior learning, and maths talk.
Understand where children need to be – Based on year group or pre-key stage expectations and ongoing formative assessment.

Plan how to get them there – Using strategies that promote independence, mastery, and high expectations for all.
Effectively deploy adults – To support and challenge pupils appropriately.
Plan for progression – Across and within lessons.

Assessment

Assessment is an integral part of teaching and learning, ensuring pupils make progress and teachers have accurate information to plan next steps.

Types of Assessment

Summative / Reported: NFER tests and SATs
Standardisation: Years R–6
Diagnostic / Summative (as needed): White Rose, NCETM materials, IDL
Formative / Ongoing:

Standardisation and Moderation

Regular standardisation meetings
Moderation includes:
In-house
Cross-school/trust
All assessment and moderation outcomes are discussed during pupil progress meeting and analysed to inform next steps.

Summary

Our mathematics implementation ensures that:

Planning is coherent and progressive across all levels.

Lessons follow a mastery approach, supporting deep understanding.
Teaching is of high quality, inclusive, and promotes independence.
Assessment is rigorous, purposeful, and used to inform teaching and learning.

Impact:

Our aim is that pupils leave John Mayne School fully prepared for the next stage of their education and life with:

Key Mathematical Outcomes

Quick recall of facts and procedures – Pupils can confidently retrieve essential knowledge and methods.
Flexibility and fluidity in mathematics – Pupils can move confidently between different contexts, representations, and problem-solving approaches.
Recognition of relationships and connections – Pupils can see links between concepts and apply understanding across mathematical topics.
Confidence and belief in achievement – Pupils are resilient, willing to take risks, and confident in their ability to succeed in mathematics.
Understanding of mathematics in daily life – Pupils appreciate that maths underpins much of the world around them.
Mastery of skills and concepts – Pupils consolidate learning to a level where it can be applied independently in varied contexts.

Mastery Definition

A mathematical concept or skill is considered **mastered** when a pupil can:

Demonstrate understanding in multiple ways (concrete, pictorial, abstract).
Use accurate mathematical language to explain ideas.
Independently apply the concept to new problems in unfamiliar situations.

This approach ensures all pupils develop a deep, lasting understanding of mathematics, rather than just procedural knowledge.

Assessment of Impact

Pupils' progress and mastery are evaluated through:

Ongoing formative assessment – Daily and weekly checks for understanding.
Tracking and data analysis – Monitoring individual and cohort progress.
Pupil progress meetings – Discussions to inform teaching strategies and interventions.
Staff performance management – Linking teaching quality to pupil outcomes.
Moderation and standardisation – Ensuring consistency across classes, year groups, and schools.

These processes ensure that the impact of our maths curriculum is both measurable and meaningful, supporting continuous improvement in teaching and learning.