

**Our intent:**

An understanding of the important concepts and an ability to make connections within mathematics.

Fluent knowledge and recall of number facts and the number system.

The ability to show initiative in solving problems in a wide range of contexts, including the new or unusual.

To develop children's mathematical vocabulary so they are confident to reason and justify their learning.

To build a conceptual understanding of maths which can be applied to increasingly complex problems.

To build rich connections in mathematical learning to other subjects and the wider world.

**Our implementation:** How will we deliver our intent?**Mastery Approach**

- Children are taught using the mastery approach where mathematical concepts are introduced to all children in small, manageable steps.
- Our mastery approach to teaching and learning is developed in partnership with Mobius Maths Hub and Maths No Problem.
- Teachers will use a range of 'adaptive quality first' teaching strategies to develop a deeper conceptual understanding in all children. These strategies will allow all children to make progress in the small steps from their starting points.

Maths No Problem

- Units of work are carefully sequenced so prior knowledge, concepts and vocabulary are built upon and topics are revisited in greater depth.
- Lesson structure includes: problem solving, discussion time, paired work, practical activities, journaling, guided and independent practice. This is all aimed at developing the children's mastery of mathematics
- Maths No Problem! characters expose misconceptions or prompt discussions and model the metacognitive skills we want pupils to develop.

Vocabulary, Concrete, Pictorial & Abstract

- Mathematical vocabulary will be made explicit to children in each lesson as this is the basis for 'maths talk' and developing fluency and reasoning skills.
- Through modelling and questioning techniques children will be expected to use the relevant vocabulary in each lesson.
- Concrete and pictorial representations will be used in line with the maths scheme of work to model new concepts and develop conceptual understanding by all children.

Fluency & Retrieval Practice

- Regular fluency sessions are timetabled in addition to the core maths lesson.
- Fluency lessons will focus on developing accuracy, efficiency and flexibility with key number facts to build a strong sense of number.
- Systematic programme for teaching early number and times table facts
- Opportunities for practice and retrieval of previous knowledge and understanding are interleaved into the teaching cycle.
- Parents and carers are informed of their child's sense of number and are provided with strategies on how they can help to improve these. Parent workshops in Early Years and Key Stage 1 support parents to practise at home.



Reasoning & Problem Solving

- All children will encounter a range of increasingly complex problems in their learning to help 'secure' knowledge and understanding. Some children may need 'adaptive teaching' to help them engage in this process.
- Children are be taught a range of problem-solving strategies and which strategy may be best to help them solve a problem. Understand, Plan, Action, Check
- Thinking strategies such as 'thinking out loud' and modelled examples are used with children to help model and explain problem solving strategies.
- All anchor tasks in the Maths — No Problem! are real-life problems so they are relatable and interesting to the specific age range.

Mathematical Mindsets

- The classroom culture or learning embeds principles from metacognition and self-efficacy to enable children to reflect and take responsibility for their progress.
- The 'Characteristics of a Mathematician' are promoted in each classroom to help children identify the skills and qualities required to be mathematicians.
- Children self-assess their learning against the learning objectives at the end of a unit. This provides them with the ability to challenge and drive future learning and identify how they have made progress.
- Children self-editing/marking and make corrections. These opportunities are rewarded as a chance to show resilience and progress in their learning.

Assessment

- A range of summative and formative assessment strategies will be used to identify misconceptions and inform future teaching and learning.
- Live marking means that teachers can notice pupils' successes, misconceptions and errors. It allows for responsive teaching as well as helping identifying children who need same-day short interventions
- End of topic assessments are used by teachers to identify concepts which require further consolidation.
- End of year assessments in arithmetic and reasoning provide standardised scores against age-related expectations in each year group.

Inclusion & Intervention

- Adaptive teaching strategies (EEF 5-a-day principles) are used by teachers so all children can make progress from their individual starting points.
- Interventions are guided by assessment. This may include pre-teaching and post-teaching based upon marking and feedback as well as targeted, strategic interventions in key areas such as additive or multiplicative bonds.
- Opportunities for greater depth learning are provided in the lesson structure



Impact – How will we know we achieved our aims?

Children will identify themselves as mathematicians and have positive attitudes towards maths learning. They will be able to articulate their progress in their learning.

Through strong modelling, children will be fluent in a range of fundamental mathematical concepts which can be applied throughout their maths learning.

Children will display resilience and perseverance as they apply a range of strategies to tackle problems with increasing complexity and variety within and beyond maths lessons.

Children will be curious to follow a line of enquiry, spot patterns and use mathematical vocabulary to reason and justify their learning.

A high number of children achieve the expected standard or higher, and through targeted intervention, those who find maths challenging are supported to keep up.