

Blakeney, Pillowell and Walmore Hill Community Schools' Federation



Maths Policy 2019/2020

Signed _____ Chair of the Impact Committee

Responsibility: **Maths Subject Leaders**

Policy Status: **Non-Statutory**

Review Frequency: **Annually**

Review Date: **Autumn 2020**

The governor responsible for Maths will meet regularly with the subject leaders in the federation to review progress and report to the governing body

Maths Vision

The federation schools have adopted a 'Mastery' approach to teaching and learning in Mathematics.

"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 and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides 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 about the subject."

National Curriculum 2014

The federation schools empower our children with a 'CAN DO' attitude. We encourage children to develop their knowledge and understanding of mathematics and aim for all pupils to enjoy and achieve in mathematics and become confident mathematicians.

We have adopted a teaching for mastery approach to ensure that all pupils have a deep and secure understanding of the concepts that they are taught.

Aims

We aim that all pupils:

- Become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Can solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios.
- Can reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.

We believe that ability within Mathematics is not fixed. We are developing the mindsets of children and adults alike to develop a Growth Mindset and a 'We Can' attitude to Mathematics. We believe that through quality first teaching and intelligent practice, children learning together and immediate intervention that all children have the potential to 'go deeper' and broaden their understanding of mathematical concepts.

Our definition of Mastery

The federation schools have a core set of principles and beliefs for achieving mastery in mathematics. This includes a belief that all pupils are capable of understanding and doing mathematics. Pupils are neither 'born with the maths gene' or 'just not good at maths.' With good teaching, appropriate resources, effort and a 'can do' attitude all children can achieve and enjoy mathematics. Mathematics is mathematics and the key ideas and building blocks are important for everyone.

Mastery is not just being able to memorise key facts and procedures and to answer test questions accurately and quickly. Mastery involves knowing why as well as knowing that and knowing how. It means being able to use one's knowledge appropriately, flexibly and creatively and to apply it in new and unfamiliar situations.

For all maths concepts teachers need to ensure that children are "challenged through being offered rich and sophisticated problems." After developing fluency, children need to show that they can apply their knowledge in mathematics and then move on even further to prove they have mastered the concept.

Our Mathematics in Mastery curriculum

In Years 1-6 we have developed our curriculum to allow teachers and learners to achieve a secure and deep understanding of each Mathematical Concept. It is designed to give us the opportunity to address key points individually, ensure that children have a secure and deep understanding of those points, before offering the opportunity to 'go deeper' within them. In Early Years and where appropriate in Year 1 the principles of the EYFS Framework will be followed, and there will be the opportunity to 'Explore Maths' and develop their understanding of Mathematical concepts through play.

Mastery teaching and learning

In every Mathematics lesson you will see the following:

- 'Quality first' teaching; tailored to meet the needs of the learners in each class, and immediate intervention to address gaps in learning where necessary,
- Resilient learners with Growth Mindsets and a 'We Can' attitude to Mathematics, whatever their previous level of attainment,
- Teachers using high-quality questioning to explore children's understanding and develop it further,
- Teachers making use of misconceptions to further understanding of key concepts,
- Teachers using a range of methods to explore key Mathematical concepts which appeal to pupils' different styles of learning, employing concrete/pictorial/abstract representations of Mathematical concepts,

- Learners being given the opportunity, through careful planning, to 'linger longer' on and 'go deeper' in mathematical concepts,
- Pupils learning together
- Development of fluency, reasoning and solving.

Planning, learning and teaching

The federation schools follow the mastery maths lesson style of CONCRETE-PICTORIAL- ABSTRACT (based on research by Bruner) to ensure children have a true understanding of a concept. Teachers also ensure that knowledge, reasoning and problem solving are incorporated in all weekly planning.

Alongside the mastery approach, we ensure that reasoning is at the core of every lesson. The children know they need to explain why their answer is correct and how they worked it out. After we are certain that they have truly mastered a concept, the children then apply their knowledge to problem solving activities.

Early Years Foundation Stage

Work undertaken within the Foundation stage is guided by the requirements and recommendations set out in the Early Years document. All children are given ample opportunity to develop their understanding of mathematics. Lessons in the early years follow a similar approach and use concrete and pictorial representations to develop an understanding of mathematics. Children are encouraged to use, enjoy, explore, practice and talk confidently about mathematics using reasoning. The children are exposed to rich problems using the Nrich site that is focused for early years' development and use practical resources like Numicon, ten frames and other concrete material to master key concepts.