



'Dream, Believe, Achieve!'

'With God, all things are possible.' Matthew 19:26

Psalm 25:4 'Show me your ways, LORD, teach me your path'.

CURRICULUM POLICY

MATHEMATICS

Policy Date:	November 2022
Policy Review:	November 2025
Signature of Headteacher:	

INTRODUCTION

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 aims of the National Curriculum are for our pupils to:

- **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.

The National Curriculum sets out year-by-year programmes of study for key stages 1 and 2. This ensures continuity and progression in the teaching of mathematics.

(National Curriculum, 2014)

The EYFS Statutory Framework (2021) sets standards for the learning, development and care of children and supports an integrated approach to early learning. The aims of the EYFS Framework, in relation to mathematics, are as follows:

- Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically.
- Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.
- Opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures.
- Children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go' and not be afraid to make mistakes.

INTENT OF THE MATHEMATICS POLICY AT ST MARY'S

- To ensure that children are confident in using both mental arithmetic and written strategies to perform calculations efficiently and accurately.
- To ensure that children know and are able to recall number facts and multiplication facts quickly and confidently.
- To give children opportunities to develop their understanding and application of 'Concrete / Pictorial / Abstract'. The children use practical equipment to support their understanding of various areas of mathematics. Once children become more confident, they can then recognise, understand and use pictorial representations of 'concrete' equipment; and then move on to doing this mentally.
- To allow children to master different areas of mathematics through deeper levels of exploration, rather than simply pushing them on to another area once they have seemed to understand a concept.

- To constantly challenge our children through a combination of activities to improve their fluency and ability to reason and solve problems. We use 'sentence stems' to enable children to verbalise and record their reasoning in full sentences.
- To give lots of opportunities to solve problems for a variety of mathematical topics.

At St Mary's, we encourage children to think mathematically by giving them a variety of different practical, ICT based and paper based maths activities. As well as ensuring that children are competent and confident at calculating mentally and with written methods, we give children opportunities to reason mathematically, carry out investigations and solve problems.

Children in Key Stage Two are given weekly homework which supports them to learn, practise and apply their multiplication facts. To further support children with improving their ability to know and apply knowledge of multiplication facts, children are given regular opportunities to be a 'Times Tables Rock Star' by rapidly recalling their multiplication and associated division facts against a timer whilst listening to various music – the children enjoy this and are all keen to improve their 'Rock Status', which is based on their average speed (seconds) per question correctly answered.

To ensure that children can calculate accurately and efficiently, we use a range of written calculation strategies (which can be viewed on our school's website). The main aim of our written calculation strategy is that each strategy progresses from one year group to the next, with the intention being that children understand each strategy, rather than simply showing them how to use each strategy. We feel that this will help the children to use, apply and remember each strategy successfully. Children practise each written strategy frequently to ensure that they can use and understand them fluently and efficiently.

Practical mathematical equipment is used to reinforce children's understanding of a range of mathematical concepts. Eventually, when children have a more secure understanding, the aim is that children can then move on to recognising and creating visual representations, based on the practical equipment they have been using previously. Through this, we aim to ensure that children at St Mary's have a deeper understanding of different mathematical concepts.

Children do lots of activities to improve their fluency with mental arithmetic techniques, so that they can calculate quickly and accurately. We also place a high emphasis on the importance of understanding place value and the counting system. In addition to this, children across the school are supported to learn their number bonds and multiplication / division facts securely to apply these in a variety of areas of maths.

We feel that having opportunities to solve problems and investigate by working collaboratively with other children really helps children's mathematical understanding. Thus, we place a very high emphasis on giving children numerous problem solving and reasoning challenges.