

Maths at St Benet's

Mathematics is a creative and highly inter-connected subject 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.

The national curriculum for mathematics aims to ensure that all pupils:

- 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.

At St Benet's we strive to provide a high quality mathematics education that 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. We want children to grow in confidence and resilience when tackling mathematical challenges.

White Rose Scheme of Work:

At St Benet's we plan partly using the White Rose scheme of work. The research-based schemes of learning are designed to support a mastery approach to teaching and learning and are consistent with the aims and objectives of the National Curriculum. The children are taught mathematical concepts through pictorial, practical and written methods in order to develop a deeper understanding, confidence and competence in maths.

Concrete: Children should have the opportunity to work with physical objects/concrete resources, in order to bring the maths to life and to build understanding of what they are doing.

Pictorial: Alongside concrete resources, children should work with pictorial representations, making links to the concrete. Visualising a problem in this way can help children to reason and to solve problems.

Abstract: With the support of both the concrete and pictorial representations, children can develop their understanding of abstract methods.

Learning blocks are set out across the year so that there is full curriculum coverage. They are sequenced so that objectives can be built upon across the year starting with simpler tasks before accessing blocks that are more challenging. The order of the scheme's learning blocks are adapted and tailored according to the needs of the children.

Mastery:

Mastering maths means children acquiring a deep, long-term, secure and adaptable understanding of the subject. Achieving mastery means acquiring a solid enough understanding of the maths that's been taught to enable children to move on to more advanced material.

- Children are taught through whole-class interactive teaching, enabling all to master the concepts necessary for the next part of the curriculum sequence.
- In a typical lesson, the teacher leads back and forth interaction, including questioning, short tasks, explanation, demonstration, and discussion, enabling children to think, reason and apply their knowledge to solve problems.

- Use of precise mathematical language enables all children to communicate their reasoning and thinking effectively.
- If a child fails to grasp a concept or procedure, this is identified quickly, and gaps in understanding are addressed systematically to prevent them falling behind.
- Significant time is spent developing deep understanding of the key ideas that are needed to underpin future learning.

Mini Maths Meet:

Mini maths meets are daily 10 minute sessions outside of a maths lesson. These short sessions, ensure that children are given the opportunity to practise and consolidate key mathematical concepts within the curriculum to ensure fluency and key number facts are learnt to automaticity and other key mathematical facts are learned deeply and practised regularly, to avoid cognitive overload in working memory and enable children to focus on new learning.

Discrete Reasoning& Problem Solving Session:

Each year group has a discrete PS&R session per week outside of the maths lesson. These sessions are often mixed-ability groups and children are encouraged to explore specific mathematical PS&R skills as well as be given the opportunity to articulate their learning. Sessions can sometimes include a 'whole-school' maths problem to solve and every year group seeks a solution at various levels. PS&R sessions are recorded in floor books and include pupil voice.

NumBots:

NumBots is a program used in school aimed at younger children from Reception to Y2 and aims to equip children with efficient mental calculation strategies to add and subtract two-digit numbers. Instant recall of key number facts is the focus of the online interactive sessions. The program encourages children to develop a greater mathematical knowledge and understanding to be able to move forward and solve increasingly complex problems.

Times Table Rock Stars (TTRS):

TTRS is a maths programme that encourages children to practise recall of their times tables facts. Question-based games automatically adapt to each child's unique learning needs and provide an exciting stimulus to motivate the children to want to learn. In St Benet's our children are encouraged to access TTRS for 20 minutes per week from Y2-Y6. Each week in our whole school assembly, TTRS certificates are awarded.

Third Space Learning:

Some of our older children in Year 5 & Year 6 receive one-to-one online maths tuition with Third Space learning. These highly interactive and engaging sessions are tailored to meet specific needs in maths and really support speaking and listening skills alongside confidence when gaining a greater knowledge and understanding of mathematical concepts. The 50 minute sessions occur once a week.