Seaford Head School's Mathematics Curriculum Intent

At Seaford Head School, our Mathematics Department is committed to fostering confidence, curiosity, and a deep understanding of the subject. We aim to equip students with the skills to solve complex problems, think critically, and interpret the world through a mathematical lens.

We strive to make mathematics meaningful by connecting learning to real-life contexts, encouraging ambition, and nurturing an appreciation of the subject as a universal language that underpins many other disciplines.

Our approach is rooted in developing secure recall of key facts and procedures, enabling students to move fluently between different representations and contexts. We present concepts in a way that challenges students to understand not just when something works, but why- and when it doesn't. This promotes deliberate, thoughtful practice and encourages students to ask questions, make connections, and build on prior knowledge as they progress through the curriculum.

Our Curriculum Aims to:

- Promote a love of learning by applying mathematics in engaging and enriching ways.
- Strengthen students' mathematical language to deepen understanding and support progression.
- Improve recall and fluency by applying knowledge across a range of topics and contexts.
- Develop independent problem-solving skills, building resilience, reward, and a drive to succeed.
- Equip students with transferable skills for further education, the workplace, and adult life.

Supporting the Wider School Vision

The mathematics curriculum supports the broader aims of Seaford Head School by:

- Raising awareness of the wide range of careers that rely on mathematical thinking, helping students broaden their future pathways.
- Offering an enriching and enjoyable learning experience that nurtures curiosity and inspires new interests.

Our Key Stage 3 and 4 Curriculum Design

At Seaford Head School, our mathematics curriculum is designed to develop deep understanding, long-term fluency, and the ability to think and reason mathematically. Throughout each key stage, students are supported in building secure knowledge of core concepts, allowing them to confidently progress year on year.

Carefully structured teaching ensures that students revisit and strengthen their understanding over time. Concepts are explored in depth, enabling students to make meaningful connections, apply their skills in a variety of contexts, and become flexible, confident problem-solvers.

Our pedagogical approach places a strong emphasis on developing both fluency and reasoning. Students are supported to become confident, articulate mathematicians who can justify their

thinking, solve complex problems, and make meaningful connections across different areas of mathematics.

From Years 7 to 10, we follow the Sparx Maths scheme of learning, which is built around research-based principles that support long-term retention and secure understanding. The curriculum is intelligently sequenced, allowing students to revisit and deepen prior learning while gradually introducing new and more complex ideas. This ensures that learning is embedded over time, and that students become fluent in key numerical skills, confident in their reasoning, and resilient when approaching unfamiliar problems.

The Sparx curriculum also personalises independent learning through adaptive online homework. Each week, students receive tasks tailored to their individual needs, with built-in support and challenge. This approach strengthens their recall, promotes independent study habits, and reinforces the content taught in class. Tasks are drawn not only from current topics but also from previous content, supporting effective retrieval and interleaving -two key strategies for long-term learning.

At the beginning of Year 9, students continue to follow the Sparx scheme alongside the Pearson Edexcel GCSE Mathematics (9–1) objectives. This allows for a smooth and purposeful transition into the demands of Key Stage 4, while still allowing students to make connections with their prior learning. The focus remains on building confidence, fluency, and problem-solving ability across all areas of the curriculum.

In the Spring Term of Year 10, we use a broad range of existing evidence -including classwork, homework, teacher judgement, and assessment data from Years 9 and 10- to determine the most appropriate tier of entry (Foundation or Higher) for each student. This ensures that tiering decisions are informed, fair, and in the best interests of the student, setting them on a pathway that maximises their opportunity for success at GCSE.

Post-16 Curriculum

The A Level Mathematics course builds on the topics studied at GCSE, introducing new and advanced content such as Calculus. Further Mathematics extends beyond A Level Maths, challenging students with the most complex problems and providing excellent preparation for those intending to study Mathematics or related degrees at university.

The AQA Core Maths (Level 3 Certificate in Mathematical Studies) course requires students to apply their GCSE mathematical knowledge and skills to real-life contexts, such as personal finance and estimation.

Our curriculum reflects the interconnected nature of mathematics. Concepts are explored using prior knowledge and studied across a variety of contexts, helping students make meaningful connections between topics. We focus on developing students' progression from concrete to abstract thinking by deepening conceptual understanding, introducing specialised vocabulary, using contextual cues, and encouraging resilience through problem solving.