



## Subject Philosophy

Mathematics is a creative and highly interconnected 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.

At QE, we aspire to deliver a high-quality mathematics education: providing 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.

## Intent

We reject the idea that some pupils 'just can't do maths'. We believe that through hard work all pupils can improve their understanding and be successful.

Our aim is to support our pupils to develop a long-term, secure, and adaptable understanding of mathematics. This is achieved through developing their fluency, mathematical reasoning, and the ability to solve problems in unison.

## Design

Using an adapted version of The White Rose Scheme of Learning, our lessons are carefully sequenced to equip our students with the prerequisite knowledge required to approach unfamiliar problems and areas of mathematics. The curriculum is broken down into small manageable steps to help our students better understand complex concepts. Our five-year programme of study<sup>1</sup>, which provides full coverage of the National Curriculum, enables our students to develop as learners who see mathematics as a series of interconnected skills rather than disparate topics.

Students who grasp concepts rapidly are challenged through rich and thought-provoking tasks within the same narrow focus before any acceleration through new content is considered. Those who are not sufficiently fluent consolidate their understanding before moving on.

## Delivery

Each lesson begins with a review of previous learning, of varying recency, designed to strengthen recall and develop well-connected mathematical knowledge. These no-stakes assessments provide students with immediate feedback and allowing for effective 'gap-filling'.

New topics/techniques will be 'broken-down' into their component skills; we support our students to perform these simpler tasks so they can then build upon these acquired skills to tackle more complex tasks. We make frequent use of mathematical representations to allow our pupils to access the underlying structure of the mathematics. We do not believe in teaching shortcuts and tricks; pupils are supported to develop and understand the concepts being taught.

Mathematical oracy underpins much of our work; students are exposed to the exacting nature of mathematical language and are supported to use this in their discussions, reasoning and requests for help.

Students sit six low-stakes assessments through the year and are then supported to reflect and evaluate their learning. Three summative assessments are also completed. Our students receive one hour of Sparx homework per week to support their in class learning.

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<sup>1</sup> Introduced 2019 with year 7. Legacy year groups completing WRM KS3 and AQA KS4.