

Head of Department: Mr D. O'Neill

Mathematics is a subject that celebrates problem solving. The study of maths helps students to understand numbers, algebra, geometry and statistics. It also develops students' ability to think abstractly and critically, and to use these skills to see links between these four concepts and solve problems. At Barclay Academy, we believe in a mastery approach to mathematics, solidifying and consolidating students' understanding of essential mathematical concepts before moving onto the next topic. Students become mathematically literate, and have a deep understanding of number which they can then apply to new problems, both in their maths learning and across their other subjects.

Mathematics often has an undeservedly poor reputation, which results from poor teaching; many decide at an early age that they do not enjoy the subject or are not capable of it. We aim to combat this problem, believing that, with the right encouragement and support, and with effort, all students can both succeed at, and enjoy, maths.

With this in mind, students have access to online platforms such as MyMaths and MathsWatch to help support and promote their developing progress in maths. Extra help is also available at Maths Support Club, an optional support network which runs every lunch time. Students are also encouraged to attend enrichment events and participate in the UKMT Maths Challenges.

KS3

Here at Barclay Academy, we follow the acclaimed Mathematics Mastery programme of study. The acquisition of mathematical fluency and the ability to problem-solve lie at the heart of the Maths Mastery approach, and the curriculum is comprised, correspondingly, of three key principles: deep understanding, mathematical thinking and mathematical language. We use a concrete-pictorial-abstract approach in lessons, so students can deepen their understanding of mathematical concepts through a variety of representations. We believe students should be encouraged to develop a deep understanding of the concepts they meet rather than learn from rules.

KS4

At Barclay, all students study mathematics at GCSE, and follow the _____ specification, either at higher-or lower-tier level. The course is comprised of six key elements: number, algebra, ratio & proportion, geometry & measures, probability and statistics. The course aims to develop fluent knowledge skills and understanding of mathematical methods and concepts. Using this knowledge, students are then able to select and apply mathematical techniques to reason with and solve problems. They become confident mathematicians, equipped with mathematical understanding that can be applied both in maths and the sciences, as well as in their daily lives.

KS5

In the Sixth Form, we offer A-Levels in both mathematics and further mathematics. The courses focus both on pure mathematics and its applications as well as applied mathematics, such as the fields of statistics and mechanics. Both courses are highly regarded by employers and further education, demonstrating as they do a student's aptitude for problem-solving and intellectual capacity. Students develop high levels of resilience and persistence, as well as the ability to pose questions and challenge ideas.