

Mathematics Department Curriculum Vision Statement – June 2024

Vision

Here in the mathematics department, we believe Mathematics is enjoyable and fun – we want our students to discover the joys of number and problem solving and see how mathematics links to the real world. Our curriculum intends to provide an inspiring, rich and challenging lessons, which seek to ensure that students participate in a wide range of fun learning activities, including show and tell whiteboards, card matching activities, interactive games and puzzles, poster making, open-ended investigations and data collection to underpin the skills needed both academically and in the real world.

We want students to find Mathematics rewarding – whether it be from the satisfaction of solving a tricky maths puzzles or the knowledge that their numeracy and problem solving skills are in demand with universities and employers; in a recent study it has been found that those who study A-level maths earn on average 11% more over their lifetime. We aim to support the development of resilience in our students, so they have the mind-set to confidently solve problems and reason mathematically, the motivation and persevere with topics understanding that failure and feedback is an important part of the process.

Action

Mathematics is compulsory in Years 7 – 11 and the mathematics department has a five-year progressive curriculum model in Key Stages 3 and 4; a two year progression model then follows on for those who choose to study maths in the Sixth Form. The schemes of work are developed by the whole team and focus on building on previously learnt skills. Lessons are planned to follow the progressive curriculum and tasks are adapted as needed for all our students in their classes.

Students are placed in appropriate sets early in Year 7, this allows for students to work confidently and effectively at a suitable level and pace, best suited to their learning. Support and stretch is applied at all levels, with setting monitored throughout Years 7 – 11 and as a result students develop confidence in maths and attain the best results they can.

Key Stage 3

In Years 7 – 8 we follow the National Curriculum and students study number, algebra, ratio and proportion, geometry and measures, probability and statistics. Activities are planned to encourage wider thinking and embed long term retention.

Key Stage 4

In Years 9 – 11 students' study for the new Mathematics GCSE 9-1 (OCR specification) at the appropriate level, either Higher or Foundation. There are three examination papers at the end of Year 11 and a calculator can be used in two of these. Students study number, algebra, ratio and proportion, geometry and measures, probability and statistics. Activities are planned to encourage wider thinking and embed long term retention; regular assessments of knowledge, skills and application identifies priorities for intervention and future delivery, and also encourage students to reflect on their progress. In Year 11, a selection of students will have the opportunity to study Further Mathematics GCSE Level 2 (AQA specification), which are bridging qualification to support those pupils who go onto study A'level Mathematics.

Curriculum Support and extra-curricular activity

Students who succeed quickly are challenged by rich and analytical problems before being moved on to new concepts, they also have the opportunity to join an after school enrichment club which provides challenge and encourages participation in both team and individual challenges in the UKMT Maths Challenge Competitions at all age ranges.

Students who are less mathematically fluent are supported in their learning by being taught in small groups with extra teaching support and additional intervention where appropriate. After school sessions are available to all students in all year groups; whether they need extra support to make progress or have missed a session through absence. Parents can request support through our Parent Pledge in Maths and English.

We have a designated Numeracy Coordinator who supports other curriculum areas with their teaching of mathematical concepts. The whole school literacy policy of incorporating the key vocabulary as identified on the curriculum is upheld and students are encouraged to use appropriate language.

In 2022 we ran our first maths trip to the National Space Centre with Year 9 and developed our Women in Space programme.

Resources

Our teaching predominantly takes place in learning bases and study rooms, all equipped with interactive teaching boards, student mini whiteboards and a variety of teaching resources. The Maths department subscribes to a number of websites, including Mathswatch and Sparx, to support the teaching and learning of Mathematics, these are accessible to all students in school and at home.

Impact

Outcomes within the mathematics department are exceptional and stand out nationally in terms of attainment and progress. Mathematics is a very popular subject at Sixth Form level and the Further Mathematics take-up is high. The teaching, support and guidance provided by our staff has resulted in success at Oxbridge and Russell Group universities alongside financial and engineering apprenticeships. The high calibre of provision for enrichment for our more able students has resulted in excellent achievements in the UK Individual and Team Challenges.

Subject contact

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