

## **Mathematics Curriculum Statement**

### **Vision**

Here in the Mathematics department, we want all our students to develop mathematical and numeracy skills to support their continued progression within, and beyond the classroom. Our curriculum intends to provide tailored high-quality lessons, which seek to ensure that students have the skills and mind-set to develop mathematical application and resilience, and to have a sense of enjoyment and curiosity about the subject; whether it be from the satisfaction of solving a tricky maths puzzle, or the knowledge that their numeracy, and problem-solving skills, are in demand with universities and employers. Our students participate in a wide range of learning experiences, from quiet individual work in a calm atmosphere, low stake quizzes to aid retention, think-pair-share work, examples and modelling via show and tell whiteboards. 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 perseverance with topics, and understanding that failure and feedback is an important part of the process, as they progress through school.

### **Action and Implementation**

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 collaboratively within the department and focus on progression and retention. Lessons are planned carefully to follow the progressive and sequenced curriculum, and tasks are adapted as needed to challenge 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.

In Years 7 – 8 we follow the National Curriculum and in Years 9 – 11 students' study for the new Mathematics GCSE 9-1 (OCR specification) at the appropriate level, either Higher or Foundation. Students study number, algebra, ratio and proportion, geometry and measures, probability and statistics throughout the Key Stages. Activities are planned to encourage wider thinking and embed long term retention; numeracy starters, end of topic tests (APPs), interleaving topics and concepts in the curriculum and frequent summative assessments (KAPs) of knowledge, skills and application identifies priorities for intervention and future delivery, and encourages 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.

To support our students, we have a range of opportunities in our Session 3 programme. In Years 7 – 9 they can join an after-school enrichment club which provides challenges and problem-solving skills. In all year groups there is the opportunity to participate in both team and individual challenges in the UKMT Maths Challenge Competitions. 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 external visit to the National Space Centre with Year 9 and developed our Women in Space programme.

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 MyMaths, 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 and our gap within SEND/Disadvantaged students is below the National Average. 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.

### **Impact of Covid 19**

The global Covid-19 pandemic presented challenges and opportunities for our students and staff alike, for each of the lockdowns we amended the curriculum to ensure students were supported and could make progress. A with a variety of resources and material used from live zoom sessions being delivered, online resources from the National Academy, and MyMaths and Mathswatch work set so that students received immediate feedback for tasks. Student engagement was very high, and then on the return to school students were regularly assessed to identify any areas that needed further teaching. Additional support or intervention and the curriculum was amended to ensure all topics were covered and any weaknesses addressed. During both academic years Saturday School has been offered and well attended by Y10, Y11 and Sixth form students.

The curriculum has been continually updated and adapted as a result of each lockdown or period of remote learning. With the advanced information for exams in 2022, we could ensure the students were well prepared for these and as a result our outcomes for both GCSE and A-Level were very positive. We will continue to work with the students on their needs as we identify them, adapt our curriculum and look to be able to offer interventions via Session 3 and Saturday School in 2022/2023 as needed.