

# Maths Department

## Intent

Mathematics is an interconnected subject in which students need to be able to move fluently between representations of mathematical ideas. The intent of the department curriculum is to ensure that all students can gain sufficient wide and extensive knowledge so that they are well prepared for the next stage of their education and future careers and can apply their mathematical knowledge in many subjects across the curriculum such as science and geography.

Our curriculum provides students with a deep knowledge of mathematical concepts. It aims to develop students to be inquisitive problem solvers who can apply maths in the real world. Over the five years we aspire to achieve excellence, building their confidence in Mathematical knowledge, and supporting the development of caring and creative students.

The mathematical content set out in the KS3 and KS4 scheme of work covers the full range of material contained in the GCSE Mathematics qualification. We start our curriculum in year 7 with a transition unit, developing on basic skills and concepts they have learnt from Primary School. We then introduce the foundational stages of the GCSE and through the 5 years' work up the knowledge and skill ability in building blocks to cover our main domains of knowledge: Number, Algebra, Statistics, Ratio and

Proportion and rates of change, Geometry and measure and probability. It is important that students regularly revisit topics to develop retention. We do this in starter questions and linking the topics where possible. The lessons have been sequenced to enable all students, including disadvantaged students, to make significant academic progress. This is done by scaffolding resources, differentiating tasks and excellent content of teaching in lessons.

As part of the curriculum, we develop cultural capital by providing lessons where students apply their maths knowledge into real life. For example, year 7 run a probability fair and year 8 work as a year group to design, make and budget a new town. We also have raised the excellence of maths across

the school and developed students to become confident and creative in their maths ability by running a Maths Ambassadors group, who enjoy challenging tasks and running events at school, also connecting with Ocklynge doing year 5 Maths challenges.

## Implementation

At Key Stage 3, schemes of work are based upon the Key Stage Curriculum for Mathematics. The Mathematics department has implemented changes from the National Curriculum. Classes are mainly taught in mixed ability, with some classes selected for the most confident mathematicians to provide a more challenging environment.

At Key Stage 4 the students will be identified as to which tier of entry to work towards. The students are placed into classes, working towards that GCSE content. There are Foundation paper ability and higher paper ability classes. The higher paper ability has been split with an Intermediate thread to support students working up to a grade 6, whereas the Higher ability will be working up to a grade 9. They all focus on the key content which will be on the GCSE paper within the National Curriculum.

During lessons teachers regularly check progress with diagnostic questions, formatively assessing students using RAG (Red Amber Green) questions for students to self-assess, exit tickets, and verbal feedback. Students, including disadvantaged students, are identified, and are provided with extra support after school in a programme called Online Tutoring and with our Maths HLTA during lessons in intervention small groups.

The 6 principles are embedded into the Maths curriculum planning, also the teaching within lessons. Feedback is key for developing and progressing students. TICK time is used to feed forward and close the gaps in learning from previous lessons and after summative assessments. Verbal feedback and responsive teaching supports this progress within lessons. Homework is set each week to support independent learning on Mathswatch.

## **Impact**

In year 7 a base line test is used to develop their knowledge and skills from KS2. The gaps identified are used to support students in the transitional units and is interweaved into the curriculum throughout the 5 years.

In KS3 a summative assessment is set at the end of each term, they have recall questions, the 3 topics covered and wordy problem-solving questions. This data is used to identify gaps in learning and progress and is used to support with predicting students' progress and grades.

In KS4 a summative assessment is set each term alongside MOCK exams. All mocks are moderated and standardised within the department to identify key barriers to learning, gaps in knowledge and support in developing accurate predicted grades for students.

At KS4 Students will be entered into the Edexcel Mathematics GCSE in either foundation or Higher tier of entry.