



SUBJECT: GCSE Mathematics

YEAR: 10 & 11

HEAD OF DEPARTMENT: Mr Hatch

GROUPING POLICY: Set by Ability. The course in Mathematics follows two tiers of entry. Typically, students in the top two sets will follow the Higher tier scheme, whilst the remaining sets follow the Foundation tier. Some students requiring additional support are given the opportunity to take the Entry Level Certificate in addition to participation on the GCSE course

EXAM BOARD: AQA

ASSESSMENT: 100% External Examination

COURSE CONTENT

Link to Specification:

<http://www.aqa.org.uk/subjects/mathematics/gcse/mathematics-8300>

CURRICULUM INTENT

To develop confident, independent mathematicians who have an appreciation for mathematics in the wider world. We want students to have a creative and ambitious mathematics curriculum, rich in skills, vocabulary and knowledge, which ignites curiosity and makes mathematics relevant to their lives. Our mathematics curriculum will give students the opportunity to:

- Become fluent in the fundamentals of mathematics, giving all students the opportunity to access a wide range of post-16 options
- Pupils develop the problem-solving skills and apply their mathematics to a variety of routine and non-routine problems with increasing sophistication
- Pupils master the relevant number skills which will enable them to access more complex problems in the classroom and in future employment.
- Reason about the proportional nature of many aspects of real-life rates and ratios
- Communicate, justify, argue and prove using mathematical vocabulary
- Work with abstract concepts to propose, test and prove conjectures
- Reason about the properties and sizes of different aspects of shapes
- Develop their character, as part of Rednock's IMATTER program so that they can contribute positively to the life of the school, the local community and the wider environment.

What will my child learn?

- The scheme of work follows the GCSE Curriculum and students will cover work on Number, Algebra, Ratio and Proportion, Geometry, Measures, Statistics and Probability.
- They will develop a sound working knowledge of how to use a calculator in order to prepare them for the two calculator papers at the end of the course.
- To express their ideas verbally and in writing using mathematical rigour.
- To identify mistakes as they critically analyse problems.

Please note: We are currently in a year of transition; Year 11 are studying the scheme of work that we have used at Key Stage 4 for the last 4 years and will be revisiting and developing topics learned in Year 10. Year 10 have moved to the White Rose Maths scheme of work, used by many schools nationally and will be developing key skills to push as many as possible towards the higher tier of entry. Where this is not appropriate for certain students, certain topics will be replaced with time working on the Entry Level Certificate, a qualification that supports students' understanding of some of the core GCSE content.



What will homework look like?

Students will have one piece of homework a week. This will either be a written task or online and should take approximately 1 hour.

What enrichment opportunities are available?

Gifted and Talented students take part in the UKMT Intermediate Maths Challenge.

ASSESSMENT

Exam Board: AQA GCSE Mathematics 100% Examination

How will my child's work be assessed?

- **Year 11:** The subject is split into fortnightly topics. After every 4 weeks there is a test on the two topics that they have just done. This is then marked by the teacher who gives feedback and sets a shadow test for students to improve poorly answered questions.
- **Year 10:** Students will do a short end of topic test for every topic on the scheme of work. Topics vary in length from 2 to 4 weeks. This is then marked by the teacher who gives feedback and some directed improvement opportunities in lessons.
- **All:** Formal mock examinations will give students valuable exam practice as well as allow us to track their progress in the subject.

The course is examined at the end of Year 11 in two tiers – Foundation and Higher. Foundation tier can award grades 1 to 5, and Higher tier 4 to 9.

There are 3 examination papers and content from any part of the specification may be assessed:

- Paper 1 = Non-Calculator (33.3%) – 90 mins
- Paper 2 = Calculator (33.3%) – 90 mins
- Paper 3 = Calculator (33.3%) – 90 mins
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Each examination paper will contain a mix of question styles, from short, single-mark, multiple-choice questions to multi-step problems. The mathematical demand increases as a student progresses through the paper.

ADDITIONAL INFORMATION

How can I support my child in this subject?

- Be positive about learning Mathematics when speaking to your child, whatever your personal experience of the subject was.
- Discuss what your child is learning in Mathematics with them, and get them to focus on the process of “why” the mathematics happens rather than concentrating on the answers.
- Help your child practise their numeracy. It is essential that they master their times tables, and formal methods of addition, subtraction, multiplication and division.
- Try to encourage your child to use mathematics in everyday activities. For example, when you go to the supermarket you could encourage them to figure out whether or not an offer gives better ‘value for money’.

How can I support my child with exams?

- Students need to make sure that they complete past papers, and then use that to analyse



what topics they may need to focus on. A wide variety of online resources provide excellent videos and additional questions to help support your child in doing this. For example, Corbettmaths.com offers a 5-a-day program of study offering 5 skills-based questions daily from January the 1st until the end of the academic year for Year 11.

- Test your child with the formulas that are needed for their exam.