Mathematics

Subject Leader
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Mathematics
Mathematics is a core subject at GCSE and all students will take a full GCSE qualification or an Entry Level certificate. The Mathematics GCSE encourages students to develop confidence in, and a positive attitude towards, mathematics and to recognise the importance of mathematics in their own lives and to society. It prepares students to make informed decisions about the use of technology, the management of money, further learning opportunities and career choices. A mastery approach to Mathematics is used to develop a complete understanding of key Mathematical concepts and processes

Year 7
The focus for students is the acquisition of core Mathematics processing skills, Mathematical fluency, Mathematical reasoning and problem solving.

Autumn Term	**Topic**	**Assessment**	**Home Learning**
September –October	Core Number	In Class	Electronic Portfolio
November – December	Core Number Continued	End of terms 1 & 2 Formal	Electronic Portfolio
Spring Term	**Topic**	**Assessment**	**Home Learning**
January –February	Fractions, Statistics	In Class	Electronic Portfolio
March – April	Percentages	End of terms 3 & 4 Formal	Electronic Portfolio
Summer Term	**Topic**	**Assessment**	**Home Learning**
April-May	Algebra	In Class	Electronic Portfolio
June-July	Geometry	End of Terms 5 & 6 Formal	Electronic Portfolio

Year 8
The focus for students is to develop their mathematical reasoning and problem solving skills whilst applying core Mathematics skills to other areas of the curriculum.

Autumn Term	**Topic**	**Assessment**	**Home Learning**
September –October	Number Revisited	In Class	Electronic Portfolio
November – December	Data	End of terms 1 & 2 Formal	Electronic Portfolio
Spring Term	**Topic**	**Assessment**	**Home Learning**
January –February	Algebra	In Class	Electronic Portfolio
March – April	Geometry	End of terms 3 & 4 Formal	Electronic Portfolio
Summer Term	**Topic**	**Assessment**	**Home Learning**
April-May	Ratio, proportion and rates of change	In Class	Electronic Portfolio

June-July	Probability and Geometry in 3d	End of Terms 5 & 6 Formal	Electronic Portfolio

Year 9

The focus for students is to further develop their problem solving skills whilst applying the content from years 7 and 8 to more advanced Mathematics topics. The emphasis changes to preparing pupils for the higher order thinking of the GCSE curriculum.

Autumn Term	**Topic**	**Assessment**	**Home Learning**
September –October	Year 7 and 8 Revisited	In Class	Electronic Portfolio
November – December	Advanced Algebra	End of terms 1 & 2 Formal	Electronic Portfolio
Spring Term	**Topic**	**Assessment**	**Home Learning**
January –February	Geometry	In Class	Electronic Portfolio
March – April	Statistics and Probability	End of terms 3 & 4 Formal	Electronic Portfolio
Summer Term	**Topic**	**Assessment**	**Home Learning**
April-May	Advanced Number	In Class	Electronic Portfolio
June-July	Geometry, Pythagoras and Trigonometry	End of Terms 5 & 6 Formal	Electronic Portfolio

Assessment

Assessment: Students will be tested with end of topic tests. Mental arithmetic skills and spelling of mathematical vocabulary will be tested on a regular basis. Assessment of using and applying Maths is ongoing through both class and homework/independent study. An examination, similar in format to those of the National Curriculum tests, is given in the middle, and at the end of the academic year. By the end of Key Stage 3, students are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Assessment Matrices

Click for access to Assessment Matrices

Equipment

Students are expected to bring the following equipment to every lesson:

Pen, pencil, ruler, protractor, pair of compasses, scientific calculator. Exercise books are provided. In case of damage students are expected to finance a replacement book.

Extra-Curricular Activities

Mathematics intervention runs every Wednesday after school for Year 11 students. Students will have this timetabled.

The UK Maths challenge (Junior and intermediate) is run every academic year for students in set 1 across all year groups.

Suggested Extension Activities
Students can visit museums and locations which encourage and celebrate pure and applied Mathematics e.g. Bletchley Park, Techniquest, Science museums and Mathematics mastery days hosted by universities.

GCSE Maths
Examination Board: EDEXCEL
Specification: Mathematics MA01

Specification link

https://qualifications.pearson.com/en/qualifications/edexcel-gcses/mathematics-2015.html

Overview
Year 10

Autumn Term	**Topic**	**Assessment**	**Home Learning**
September –December	Number Algebra	In class assessments End of terms 1 & 2 Formal	Electronic Portfolio
Spring Term	**Topic**	**Assessment**	**Home Learning**
January –April	Geometry Data and Statistics	In class assessments End of terms 3 & 4 Formal	Electronic Portfolio
Summer Term	**Topic**	**Assessment**	**Home Learning**
April-July	Ratio, proportion and rates of change Probability	In class assessments End of year formal exam	Electronic Portfolio

Year 11

Autumn Term	**Topic**	**Assessment**	**Home Learning**
September –December	Number Algebra Revision	In class assessments Mock exams	Electronic Portfolio and revision booklet
Spring Term	**Topic**	**Assessment**	**Home Learning**
January –April	Geometry Data Ratio, proportion and rates of change Revision	In class assessments Mock exams	Electronic Portfolio and practice exam papers
Summer Term	**Topic**	**Assessment**	**Home Learning**
April-July	Probability Revision	In class assessments Formal examination	Revision papers

Equipment
Students are expected to bring the following equipment to every lesson:

Pen, pencil, ruler, protractor, pair of compasses, scientific calculator. Exercise books are provided. In case of damage students are expected to finance a replacement book.

Assessment

Assessment: Students will be tested with end of topic tests. Mental arithmetic skills, spelling of mathematical vocabulary and retention of key formulae will be tested on a regular basis. Assessment of using and applying Maths is ongoing through both class and homework/independent study. An examination, similar in format to those of the formal GCSE is sat at the end of year 10 and again for the internal mock exams. By the end of Key Year 11, students are expected to know, remember, apply and understand all Mathematical concepts that they have been taught since year 7.

Home Learning
All homework for GCSE Mathematics will be set as an electronic portfolio for completion over the course of the term. This will be set each week, and will available to view online on Class Charts and mymaths. Year 11 students are set additional revision tasks and, closer to the formal examination, practice papers to prepare them for the formal GCSE.

Useful resources
Websites
https://www.mymaths.co.uk/

https://www.mathsgenie.co.uk/gcse.html

https://mathsmadeeasy.co.uk/

https://www.bbc.com/bitesize/subjects/z38pycw

http://www.mrbartonmaths.com/index.html

https://justmaths.co.uk/2015/12/21/9-1-exam-questions-by-topic-higher-tier/