

# **Mathematics**

**Head of Department  
Mr B Bibb**

## Years 7 & 8 Mathematics

### Content

All students in years 7 & 8 follow the KS3 National curriculum for mathematics. The national curriculum for mathematics aims to ensure that all students:

- Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that students develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- **Reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- Can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

### Topics covered are:

- Number
- Algebra
- Ratio, proportion and rates of change
- Geometry and measure
- Statistics
- Probability

Full details of the KS3 National curriculum can be found below:

<https://www.gov.uk/government/publications/national-curriculum-in-england-mathematics-programmes-of-study>

### Assessment

The students are assessed at regular intervals using topic tests aligned with the scheme of work and termly to monitor progress. Student work is also assessed at regular intervals, where RAG sheets are made available to help students prepare and identify next steps to enable students to focus on key areas for improvement following the assessments.

### How Parents and Carers can support

Mathematics resources are now plentiful; from revision guides, smart phone and tablet apps to interactive websites. We would urge parents and carers to encourage students to use these to support the learning in the classroom. YouTube often has great clips too!

The bulk of the homework is done using Dr Frost Maths <https://www.drfrost.org/>, in addition, students will be directed here for revision in the lead up to their assessments. There is a lovely little feature on Dr Frost called 'Clean Up'. This directs students to four recent questions they have got wrong and need revisiting. Students have their logins and use them regularly. If they encounter a problem, they should talk to their class teacher.

BBC Bitesize Maths KS3 <http://www.bbc.co.uk/education/subjects/zqhs34j>

Some parents do like to purchase actual revision guides. Any guide covering the National Curriculum would suffice.

## **Years 9, 10 & 11 Mathematics**

### **Exam Board and Syllabus Code: AQA GCSE Mathematics (8300)**

#### **Content**

The aims and objectives of the AQA GCSE (9–1) Mathematics (8300) are to enable students to:

- Develop fluent knowledge, skills and understanding of mathematical methods and concepts
- Acquire, select and apply mathematical techniques to solve problems
- Reason mathematically, make deductions and inferences, and draw conclusions
- Comprehend, interpret and communicate mathematical information in a variety of forms appropriate to the information and context.

#### **Topics covered are:**

- Number
- Algebra
- Ratio, proportion and rates of change
- Geometry and measure
- Statistics
- Probability

Full details of the KS4 National curriculum can be found below:

<https://www.gov.uk/government/publications/national-curriculum-in-england-mathematics-programmes-of-study>

#### **Assessment**

**Year 9 & 10**, the students are assessed at regular intervals using topic tests aligned with the scheme of work and also termly to monitor progress.

Year 11 will sit mock examinations in the autumn term and spring assessments mirroring the requirements of the summer exams – Bespoke revision lists are provided per student, based on the outcome of these assessments.

#### **Year 11 Final assessment:**

- Two tiers are available: Foundation and Higher (content is defined for each tier).
- Each student is permitted to take assessments in either the Foundation tier or Higher tier.
- The qualification consists of three equally-weighted written examination papers at either Foundation tier or Higher tier.
- All three papers must be at the same tier of entry and must be completed in the same assessment series.

- Paper 1 is a non-calculator assessment and a calculator is allowed for Paper 2 and Paper 3.
- Each paper is 1 hour and 30 minutes long.
- Each paper has 80 marks.
- The content outlined for each tier will be assessed across all three papers.
- Each paper will cover all Assessment Objectives, in the percentages outlined for each tier. (See the section Breakdown of Assessment Objectives for more information.)
- Each paper has a range of question types; some questions will be set in both mathematical and non-mathematical contexts.
- Two assessment series available per year: May/June and November\*.
- The qualification will be graded and certificated on a nine-grade scale from 9 to 1 using the total mark across all three papers where 9 is the highest grade. Individual papers are not graded.
- Foundation tier: grades 1 to 5.
- Higher tier: grades 4 to 9 (grade 3 allowed).

Further information on the specification can be found using the following link:

<http://filestore.aqa.org.uk/resources/mathematics/specifications/AQA-8300-SP-2015.PDF>

## **How Parents and Carers can support**

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The bulk of the homework is done using Dr Frost Maths <https://www.drfrost.org/>, in addition, students will be directed here for revision in the lead up to their assessments. There is a lovely little feature on Dr Frost called 'Clean Up'. This directs students to four recent questions they have got wrong and need revisiting. All homework will be set on Dr Frost for year 9 and 10 students. Year 11 students will alternate Dr Frost homework with Practice papers every other week. Students have their logins and use them regularly. If they encounter a problem, they should talk to their class teacher.

Other useful websites include:

<http://www.mathsgenie.co.uk/>

<https://www.onmaths.com/>

<https://www.1stclassmaths.com/>

<https://corbettmaths.com/>

<https://www.physicsandmathstutor.com/maths-revision/>

<http://www.bbc.co.uk/education/subjects/zqhs34j>

**Revision guides: should you wish to purchase these**

Any Maths revision guide for the new grade 9-1 exams will be fine, choose one based on what you like; we quite like the CPG ones. We would always recommend getting the workbook along with the revision as doing maths is the best way to revise maths.



(Ensure you are using the correct one for your tier, Higher or foundation)