

Maths Department

Statement of Aims

Preface:

The Maths Department aims to enhance the numeracy and mathematical thinking of the students. At Ormiston Horizon Academy we aim to develop students understanding of skills over their 5 years and starting their GCSE pathway in Year 9.

The curriculum

In the mathematics department we incorporate the Department of Education's assessment objectives to provide students with the key skills necessary to access mathematical concepts (Assessment Objective 1). We then develop these skills and apply them to problems (Assessment Objective 2). Problem-solving has a significance, not only in the mathematics exam but in the home, the workplace and the wider world. Students will also be encouraged to reason mathematically (Assessment Objective 3) allowing them to not only 'do' mathematics but 'know' mathematics.

In mathematics we will underpin the key learning with continuing practice of numeracy and times tables developed in Key Stage 2. Our year 7 and 8 Schemes of Learning are designed to follow on from skills the students should bring through with them from Key Stage 2. Students are placed in sets based on ability to ensure that they are challenged and supported appropriately.

Students will then pass into KS4 fully equipped and with the confidence to problem-solve and reason, ready to access the content and demand that the new Edexcel GCSE (9-1) brings.

Key stage 3 COURSE DETAILS

Subject: Maths

Students in KS3 follow a scheme of work designed to set them up with all the skills required for the GCSE pathway. Students in year 7 and 8 are placed in tiered sets across two bands. This ensures that challenge and support are appropriately placed however all students have the same expectations for content.

Students will cover the basics of the content needed to continue with the Edexcel Scheme of work under the subject content headings:

Number.
Algebra.
Ratio, proportion and rates of change.
Geometry and measures.
Probability and statistics.

They will be assessed termly with a Foundation GCSE paper which accumulates to a whole grade over the space of the year.

Key stage 4 COURSE DETAILS

Subject: Maths

Students will follow a 3-year Scheme of Work starting in year 9.

The Key Stage 4 curriculum also encourages mastery learning. Students will gradually build on the key skills developed in years 7 and 8 and aim to increase their understanding of mathematical concepts with a greater emphasis on problem-solving and reasoning.

Students will cover the content as detailed in the Edexcel Scheme of Work and will experience topic areas under the subject content headings of:

Number.

Algebra.

Ratio, proportion and rates of change.

Geometry and measures.

Probability and statistics.

The examination, sat in June of Year 11, has two tiers, Foundation and Higher.

The new GCSE (9 – 1) examination will consist of three separate examination papers, each of one hour and thirty minutes in length, this is required to assess the increase in content that the new GCSE brings. Two of the examination papers will require the use of a calculator, with one paper non-calculator.

The examination is assessing a student's ability to:

AO1 Use and apply standard techniques.

Where students should be able to;

- Accurately recall facts, terminology and definitions
- Use and interpret notation correctly
- Accurately carry out routine procedures or set tasks requiring multi-step solutions.

AO2 Reason, interpret and communicate mathematically.

Where students should be able to;

- Make deductions, inferences and draw conclusions from mathematical information
- Construct chains of reasoning to achieve a given result
- Interpret and communicate information accurately
- Present arguments and proofs
- Assess the validity of an argument and critically evaluate a given way of presenting information

AO3 Solve problems within mathematics and in other contexts.

Where students should be able to;

- Translate problems in mathematical or non-mathematical contexts into a process or a series of mathematical processes
- Make and use connections between different parts of mathematics
- Interpret results in the context of a given problem
- Evaluate methods used and results obtained
- Evaluate solutions to identify how they may have been affected by assumptions made.

In order to support students during their studies we offer;

Nurture groups in year 7 and 8 to allow pupils who enter the school below the expected standard to catch up.

Project Orbit – whereby year 10 pupils supply small group interventions to year 7 students to help them 'catch up' if they are behind at the start.

Period 6 in year 11 where pupils attend to work on specific areas they have struggled with in regular lessons

Revision sessions during school holidays in the build up to year 11 exams.