



Haydock High School Mathematics Department – Curriculum

Aims of the department

The vision of the mathematics department is for students to be engaged, challenged and successful. We aim to develop young people into logical thinkers and able problem solvers who are confident lifelong mathematicians.

Our team of enthusiastic Mathematics specialists strive to promote interest, curiosity and enjoyment in the learning of Mathematics by providing a supportive yet challenging environment, where pupils believe they can achieve. Our principal focus is to develop the confidence of our learners and believe all students can be successful in Mathematics. We are focussed on ensuring all learners leave Haydock High with the numeracy skills necessary to be successful.

Ethos

The curriculum at Haydock High has been designed to allow the students to develop their fluency, reasoning skills and problem solving in mathematics. Through our collaboration with local primary schools, the department has a good understanding of the different starting points in Year 7 and can build upon prior learning in Key Stage 2.

Our Key Stage 3 programmes of study are designed in relatively small steps to maximise the understanding of our students at each stage of their learning. The intention of our approach is that pupils are given the opportunity to, not only develop competence with fundamental mathematics skills they will need for the future but develop enjoyment and curiosity in the subject.

At Key Stage 4 students are expected to: undertake extended questions; solve more complex problems; and to develop their skills in communicating results clearly. All students will be entered at either Foundation or Higher Tier. The GCSE Mathematics course develops knowledge, skills and understanding of: Number; Algebra; Geometry and Measures; Statistics: and Mathematical Processes and Applications.

There is a termly plan for each year group which is split into blocks that ensure students spend enough time to get a deep understanding of topics being covered. Our schemes have been designed with interleaving as a key element so students regularly reinforce and extend their knowledge and understanding. Our progress assessments build on previous learning. These give the students to reflect on what they can do and when their next steps should be to continue improving.

We are keen to encourage pupils to develop their independence through a range of revision strategies such as, targeted revision based homework tasks, exam practice, online revision and research projects.

Teaching and Learning

The Mathematics department want all students to share our enjoyment and enthusiasm of the subject. Our lessons are designed to highlight the beauty of mathematics as well provide our



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students with an appreciation of how their learning relates to everyday life and potential future careers.

At Haydock High School we place great emphasis on delivering quality learning through modelling and probing questioning as we strive to achieve a depth of understanding in all of our lessons. We want students to develop number confidence so they can access new and challenging concepts both in mathematics and other subjects. The department recognises the greater mathematical content across the curriculum so work closely with other subjects such as Science, Geography and Technology in order to improve the quality and consistency of teaching.

In lessons teachers will regularly pose problems for students to solve. We want to extend our students beyond fluency of basic skills. By presenting problem solving opportunities students get to work creatively and independently. Ultimately creating confident and resilient learners who are ready for the demands of GCSE examinations and the challenges they will face beyond school.

The mathematics department is supportive and welcome students who seek further support outside lessons. We also identify Year 7 and 8 pupils to offer additional support during registration twice a week.

Extra - Curricular

We continue to develop the love of mathematics through our long-standing involvement with the UKMT Mathematics Challenge which offers our gifted mathematicians the opportunity to demonstrate their problem solving skills in less routine situations.

Students are encouraged to take part in weekly maths puzzles where they can compete against other students and staff. In KS3 students have the opportunity to attend a weekly chess and backgammon club where they can either learn how to play or take part regular competitions. In addition at Key Stage 4 we offer a range of different extra sessions and interventions including: Period 6 lessons, holiday revision sessions; extra lesson classes for small groups and lunch time drop clinics. These give students an opportunity to develop exam technique and focus on topics they need to improve in.

Homework

The Mathematics Faculty set regular homework tasks that both consolidate and extend content taught in lessons. Homework in Mathematics will always be set to allow pupils to seek support before the deadline. We believe that pupils should initially attempt their homework independently to develop their resilience and revision skills. However, support is always available for every pupil, whether they ask their class teacher or another teacher in the department.

Homework can take a range of forms such as work sheets, practice exam papers, research tasks or the use of the MathsWatch website. On MathsWatch students can apply their learning to a range of questions, whether set by their teacher or selected independently. This is excellent resource as it



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provides immediate feedback to the students and there are videos topics on every topic from grade 1 to 9.