



OVERVIEW

The Maths department at the Lowry Academy aims to provide students with a secure understanding of mathematical knowledge, categorised according to the following areas: number, algebra, geometry, ratio and proportion, probability, and statistics, meeting the needs of the National Curriculum at KS3 and KS4. The focus of the curriculum is to develop procedural knowledge of the fundamental elements of mathematics in order for students to access further problem solving elements and reason mathematically, whilst fostering a love of maths. In Year 11 students are taught a bespoke curriculum to provide personalised improvements for all students. A number of strategies are used in order to best prepare students for their GCSE examinations.

New topics introduced in Y11:

Foundation

- Trigonometry
- Transformations
- Scale diagrams and bearings
- Similarity and congruence
- Vectors
- Constructions and loci

Higher

- Vectors
- 3D Pythagoras and Trigonometry
- Circle Theorems
- Transformations of graphs
- Iteration
- Algebraic proof
- Constructions and loci
- Gradient and area under a curve

Once new topics have been covered students are taught bespoke lessons to address specific gaps for students. These individualised lessons include recalling prior learning as revision aid and moving from short term memory to long term memory. Students will also be exposed to problem solving style questions to model how different strands of mathematics are linked and how to identify this within questions.

ASSESSMENT

Throughout the year, Y11 students have a number of formative and summative assessments in order for teachers to closely monitor progress and identify any gaps to be closed. These inform the department and individual class teachers of the content for lessons, revision sessions, homework and starter tasks.

Students will complete a KPI test at the end of each topic, complete fluency tests every fortnight and participate in preseen and unseen exam papers (in which students are modelled carefully selected questions from an exam paper each fortnight and a week later are given an adapted version to complete independently). This allows students to have crucial exposure to exam questions to prepare for the GCSE.

Y11 students will also complete a set of Mock papers in October and then again in March. These consist of 3 papers per exam series (1 non-calculator and 2 calculator) to mimic the public examination.

PERSONAL DEVELOPMENT

The Maths Department look for opportunities throughout the year to enrich the curriculum through trips and guest speakers. We have a range of external visitors that visit our department (such as AMSP and college and university speakers) which prepares our students for life outside of school and highlights what types of opportunities are available for them.

Students are also given the opportunity to visit colleges and universities (local and further away) to experience what lectures/college and university life looks like. We also provide a weekly SPARX and chess club which effectively develops their mathematical understanding and also enables them to logically think and develop their problem solving skills. Additionally, further maths lessons also take place to extend and challenge students further.

Useful resources for supporting your child at home:

- Corbett Maths
- Pearson Online
- Maths Genie
- Hegarty Maths

Homework

Students will complete weekly homework on SPARX (online platform) Homework is set every Friday (4pm) and due in every Friday (4pm) SPARX club is available during every lunch time (L8) There is also a SPARX club available to attend every Tuesday in L6 and every Thursday in P5.