

Y11H ROADMAP - Mathematics

Subject Aim: The Year 11 Higher Maths curriculum aims to deepen students' understanding of advanced mathematical concepts required for success at GCSE Higher level. It focuses on developing fluency, reasoning, and problem-solving skills through personalised practice tailored to individual needs. The curriculum encourages application of maths in both real-life and abstract contexts, preparing students thoroughly for their exams and further study.

TERM 1

Students will consolidate Year 10 ratio and proportion before solving more complex problems involving direct and inverse relationships. They will then extend area and volume work to compound shapes and 3D solids, before applying similarity and congruence to lengths, areas and volumes. Finally, students will develop sequences and proof using algebraic reasoning. These units prepare students for higher GCSE questions involving compound measures, proportional reasoning, geometric proof and multi-step problem solving.

TERM 2

Students will revisit standard form, calculating with very large and small numbers. They will then develop geometric reasoning through circle theorems, using these to calculate angles and construct proofs. Students will extend probability through set notation, Venn diagrams and combined events, before using vectors to describe and prove geometric relationships. These units build on Year 10 learning and prepare students for higher GCSE questions involving exact calculations, conditional probability and geometric proof.

TERM 3

Students will develop their understanding of functions and graphs, connecting equations to linear, quadratic and other non-linear representations. They will then extend their algebraic skills by solving complex equations and rearranging formulae. Finally, students will apply proportional reasoning to rates, including speed, density, pressure and other compound measures. These units build on Year 10 algebra and prepare students for higher GCSE questions involving functions, graphical solutions, iterative methods and multi-step rate problems.

TERM 4

Students will consolidate angle facts, bearings and trigonometry, applying them to complex problems involving right-angled and non-right-angled triangles. They will then construct accurate geometric diagrams and use loci to identify regions satisfying given conditions. Finally, students will combine rotations, reflections, translations and enlargements, including negative and fractional scale factors. These units build on Year 10 geometry and prepare students for higher GCSE questions involving geometric reasoning, similarity, proof and multi-step problem solving.

TERM 5

As exams approach, they are encouraged to work more independently and take initiative in seeking support. Regular feedback will be provided, along with opportunities to practise exam questions and papers, culminating in sitting their first GCSE paper before the end of term.

TERM 6

Students will continue to revise and practise exam-style problems, preparing thoroughly before sitting the remaining GCSE papers.



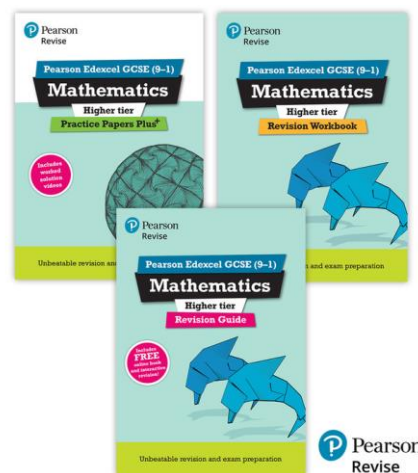
ASSESSMENT

All lessons will assess understanding through a range of activities, including diagnostic questions, mini whiteboard tasks, and find-and-fix activities. Lessons are regularly punctuated with hinge questions, key statements, and opportunities for discussion. PPE exams will take place in November and February.



INDEPENDENT LEARNING

Knowledge Organisers are expected to be used weekly to support the learning and recap of key vocabulary as the course progresses. Sparx Maths will be used as an online resource to aid independent learning. Recommended revision guides are below.



ENRICHMENT

- Maths challenge activities.
- Maths' relays allowing opportunity for problem solving.
- Term 5 well-being and revision trip to Playzone Lincoln

What Next? You should work independently to address gaps identified by your teacher while completing revision activities during lessons. This may include using practice papers, Sparx Maths, and Question Level Analyses (QLAs) to support your learning.