

Y9 ROADMAP - Mathematics

Subject Aim: The aim of the Year 9 Maths curriculum is to strengthen and extend students' mathematical understanding in preparation for GCSE. It builds on learning from Years 7 and 8 by introducing more complex topics while reinforcing key concepts through personalised practice, supporting the development of fluency, problem-solving, and long-term retention through regular retrieval and structured revision.

TERM 1	Students will revisit properties of number, building on Year 7 work with factors, multiples, primes, powers and roots and Year 8 work with indices. They will then extend their understanding of percentages to solve problems involving repeated change, growth and decay. Finally, students will develop area and volume, applying their knowledge to compound shapes and 3D solids. These units prepare students for GCSE topics including surds, standard form, compound interest, bounds, similarity and complex mensuration problems.
TERM 2	Students will extend Year 8 algebra by solving equations and inequalities and rearranging formulae. They will then develop their fraction skills, including calculations in numerical and algebraic contexts. Students will build on ratio and proportion to explore rates of change and compound measures, before revisiting standard form to calculate with large and small numbers. These units provide foundations for GCSE work involving simultaneous equations, algebraic fractions, direct and inverse proportion, speed, density and scientific notation.
TERM 3	Students will apply their percentage and calculation skills to financial contexts, including wages, bills and interest. They will then build on Year 8 coordinate work by exploring straight-line graphs, including gradients and equations of lines. Finally, students will extend their understanding of ratio and proportion to solve problems. These units prepare students for GCSE work involving compound interest, financial mathematics, parallel and perpendicular lines, graphical equations and direct and inverse proportion.
TERM 4	Students will develop their understanding of indices, building on Year 7 work with powers and roots to apply the laws of indices. They will then use this knowledge to write, compare and calculate with numbers in standard form. Finally, students will extend their Year 7 statistics work by interpreting and representing data using increasingly complex diagrams. These units prepare students for Year 9 and GCSE work involving algebraic manipulation, fractional and negative indices, scientific notation and more advanced statistical analysis.
TERM 5	Students will explore Pythagoras' theorem, linking earlier work on squares, roots and area to calculate missing lengths in right-angled triangles. They will then extend their graphing skills to recognise and interpret non-linear graphs. Finally, students will build on Year 8 probability by using set notation, Venn diagrams and probability rules. These units prepare students for GCSE work involving trigonometry, quadratic and reciprocal graphs, combined events, conditional probability and probability trees.
TERM 6	Students will extend their understanding of transformations, building on Year 8 work with symmetry and reflection to include rotations, translations and enlargements. They will then learn to form and solve simultaneous equations, connecting this to their earlier work with linear graphs and equations. Finally, students will use trigonometric ratios to calculate missing sides and angles in right-angled triangles. These units prepare students for GCSE work involving combined transformations, graphical solutions, similarity, bearings and multi-step geometric problems.



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. In addition to these ongoing checks for understanding, students will complete formal assessments once each term.



INDEPENDENT LEARNING

Sparx Maths is used throughout the year to support independent learning, revision, and personalised "fix-up tasks" following assessments. Weekly independent learning on Sparx is closely aligned with lesson content and includes bespoke tasks tailored to each student's needs, with both the content and level of difficulty personalised. These tasks enable students to consolidate and revisit material most relevant to their individual progress. Knowledge Organisers are also used weekly to reinforce key vocabulary and support learning across the curriculum.



ENRICHMENT

- Maths challenge activities.
- Maths' relays allowing opportunity for problem solving.

What Next? This year, students have strengthened their foundation in key mathematical skills. As they enter Year 10 and begin the GCSE withcourse, they will build on this knowledge and start applying it to more complex, multi-step problems, increasing focus on fluency, reasoning, and problem-solving.