

Y8 ROADMAP - Mathematics

Subject Aim: The aim of the Year 8 Maths curriculum is to build on Year 7 knowledge, deepening students' mathematical understanding and preparing them for more advanced concepts. It reinforces key skills through personalised practice, tailored revision, and regular retrieval tasks. The curriculum supports students in developing fluency, reasoning, and independence, laying a strong foundation for Year 9 and GCSE-level work.

TERM 1

Students will begin with ratio and scale, building on Year 7 work with fractions, percentages and proportional relationships. They will then explore multiplicative change through scale factors, currency conversion, similarity and real-life graphs, before extending their fraction skills to multiplication and division, including mixed numbers. These units provide foundations for Year 9 work on direct and inverse proportion, repeated percentage change and similarity, as well as later GCSE topics involving algebraic fractions, compound measures and proportional reasoning.

TERM 2

Students will develop their understanding of the Cartesian plane, building on Year 7 work with coordinates, sequences and algebra to plot and interpret graphs. They will then represent and analyse data using a range of charts and diagrams, before exploring line and rotational symmetry and reflecting shapes in different orientations. These units prepare students for Year 9 work on straight-line and non-linear graphs, more complex statistical representations and geometric transformations, leading towards GCSE study of functions, data analysis and transformations.

TERM 3

Students will develop their understanding of area and volume from Year 7, extending this to prisms, circles and density. They will then build on their earlier algebra work by forming and solving equations and inequalities, including those involving brackets and unknowns on both sides. Finally, students will extend their Year 7 work with percentages to calculate percentage increases, decreases and original amounts. These units prepare students for Year 9 and GCSE work involving compound measures, algebraic manipulation, simultaneous equations and repeated percentage change.

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 extend their Year 7 work with angles and polygons by applying angle facts to parallel lines and increasingly complex polygons. They will then be introduced to probability through tables, sample spaces and other representations, using these to identify possible outcomes and calculate theoretical probabilities. These units prepare students for Year 9 and GCSE work involving geometric reasoning, bearings and constructions, as well as combined events, probability trees and comparisons between theoretical and experimental probability.

TERM 6

Students will explore circles, building on Year 7 work with perimeter and area to calculate circumference and area and solve related problems. They will then extend their statistical understanding by interpreting and constructing a wider range of graphs and charts. Finally, students will revisit Year 7 sequences, developing their ability to describe patterns and generate terms algebraically. These units prepare students for Year 9 and GCSE work involving sectors and arcs, advanced data representation, linear and quadratic sequences and algebraic generalisation.



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? The Year 9 Maths curriculum builds on the knowledge and skills from Years 7 and 8, preparing students for the demands of GCSE. The curriculum continues to develop fluency, reasoning, and problem-solving through well-sequenced tasks that build on prior learning.