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

How do I know what my percentage profit is?

This term builds on prior learning of fractions, decimals, and percentages by introducing how to calculate percentages of amounts and percentage change, with and without a calculator. Students then extend their understanding of proportion, developed in Year 7, by exploring value for money problems. Building on earlier work with powers, and preparing for future study of standard index form, students are introduced to indices and index laws. Their understanding of fractions is also deepened through the introduction of simplifying algebraic fractions.

TERM 2

How can I describe a sequence using algebra?

In Year 7, students were introduced to solving two-step equations with a single variable. This term, they will tackle more complex equations, including those involving brackets and variables on both sides. Students will also learn to form and solve equations from worded problems. The term continues with a focus on the interconnectedness of mathematics, exploring how patterns and sequences can be represented both numerically and algebraically. Substitution is also introduced, and the term concludes with a unit on ratio.

TERM 3

Coordinates, Graphs and Fractions

A key focus this half term is developing students' understanding of coordinates and linear graphs. Building on Year 7 work with coordinates in the first quadrant and simple graphs, students will now plot points in all four quadrants, use tables of values, and explore straight-line graphs including $y=x$, $y=mx$ and $y=mx+c$, with an introduction to gradient and negative gradients. Alongside this, students begin to develop fluency in multiplying and dividing fractions, building on their Year 7 understanding of fractions, equivalence, and basic operations.

TERM 4

Fractions, Symmetry and Measures

Students will complete their work on multiplying and dividing fractions, extending their prior knowledge from Year 7 to include division by fractions and working with mixed numbers. They will then explore symmetry, building on earlier work with shapes and geometric properties in Key Stage 2 and Year 7, including line and rotational symmetry and reflection in multiple orientations. The unit then develops understanding of area and volume, linking to Year 7 work on perimeter and area, and extending this to compound shapes, prisms, and volume of 3D shapes.

TERM 5

Algebra and Standard Form

This half term focuses on algebraic reasoning. Building on Year 7 work with expressions, substitution, and simple equations, students will solve a range of equations including multi-step, fractional, and equations with unknowns on both sides. They will form equations from given information and extend this to inequalities, representing solutions on number lines and solving problems. The unit then introduces standard form, linking to prior understanding of place value and powers of 10 from Year 7.

TERM 6

Data and Geometric Reasoning

Students will develop their understanding of data, building on Year 7 work on representing and interpreting data, including averages and graphs. They will extend this to comparing distributions, working with frequency tables, and interpreting grouped data. The unit then moves to geometry, where students build on prior knowledge of angle facts from Year 7 to explore relationships in parallel lines, including alternate, corresponding, and co-interior angles.

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.

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