



Unit Outline Year 9 Semester 1 2026

Mathematics

Course Description and aims

The framework for MYP mathematics outlines four branches of mathematical study.

1. Numerical and abstract reasoning
2. Thinking with models
3. Spatial reasoning
4. Reasoning with data

The study of mathematics is a fundamental part of a balanced education. It promotes a powerful universal language, analytical reasoning and problem-solving skills that contribute to the development of logical, abstract and critical thinking. The MYP mathematics and challenge mathematics courses promote both inquiry and application, helping students to develop problem-solving techniques that transcend the discipline and are useful in the world outside school.

Mathematics in the MYP is tailored to the needs of students, seeking to intrigue and motivate them to want to learn its principles. Students should see authentic examples of how mathematics is useful and relevant to their lives and be encouraged to apply it to new situations.

MYP Assessment criteria

Criterion A: Knowing and understanding

Students select and apply mathematics to solve problems in both familiar and unfamiliar situations in a variety of contexts, demonstrating knowledge and understanding of the framework's branches (number, algebra, geometry and trigonometry, statistics and probability).

Criterion B: Investigating patterns

Students work through investigations to become risk-takers, inquirers and critical thinkers.

Criterion C: Communicating

Students use appropriate mathematical language and different forms of representation when communicating mathematical ideas, reasoning and findings, both orally and in writing.

Criterion D: Applying mathematics in real-life contexts

Students transfer theoretical mathematical knowledge into real-world situations and apply appropriate problem-solving strategies, draw valid conclusions and reflect upon their results.

Course Outline

This semester, you will become a master of mathematical modelling and geometric reasoning.

In Term 1, you will dive into coordinate geometry—calculating gradients, midpoints, and distances, and uncovering the special relationships between parallel and perpendicular lines. You will explore how changing parameters transforms graphs, making connections between algebraic rules and visual representations, and using digital tools to spot patterns and generalise ideas. You will continue with indices, working confidently with zero, fractional and negative indices, surds, and scientific notation.

In Term 2, you will take on real-world measurement challenges as you calculate the areas, volumes and surface areas of prisms and cylinders. In algebra, you will expand and factorise linear and binomial expressions—including higher powers using Pascal’s Triangle—and explore quadratic functions in depth, graphing and solving them using both algebraic techniques and digital tools.

Assessment Tasks

Assessment Task	Due*
Test: Criterion B (Patterns)	Week 5 Term 1
Test: Criteria A (Knowledge and Understanding) & C (Communication)	Week 8 Term 1
Test: Criterion D (Applications in Real Life)	Week 4 Term 2
Test: Criteria A (Knowledge and Understanding) & C (Communication)	Week 7 Term 2

**Due date subject to change at classroom teacher discretion.*

Approaches to Learning

Communication, Thinking

Australian Curriculum Achievement Standard

The Achievement Standard for Year 9 Mathematics is based on the Australian Curriculum v9

<https://www.australiancurriculum.edu.au/>