

# Australian Years 7-10 Maths Curriculum

## Summary of Essential Points

### Overall Structure of the Australian Curriculum

The Australian F-10 Curriculum has 3 dimensions.

#### Dimension 1: Learning Areas

- English
- Mathematics
- Science
- Health and Physical Education
- Humanities and Social Sciences (HASS)
- The Arts
- Technologies
- Languages

#### Dimension 2: General Capabilities

- Critical and Creative Thinking
- Digital Literacy
- Ethical Understanding
- Intercultural Understanding
- Literacy
- Numeracy
- Personal and Social capability

#### Dimension 3: Cross-curriculum Priorities

- Aboriginal and Torres Strait Islander Histories and Cultures
- Asia and Australia's Engagement with Asia
- Sustainability

### Dimension 1: Learning Areas – Mathematics

#### Year Level Materials

At each of Years 7 to 10, there are

- a level description: an overview of the learning that students should experience that year
- an achievement standard: what students should typically demonstrate by the end of that year
- content descriptions: the essential knowledge, understanding and skills students should gain
- elaborations: some examples of possible learning experiences

## Understanding this learning area

The 'Understanding this learning area' button leads to a document with the following sections.

### Introduction

This states that it is expected that all students will study mathematics up to Year 10.

### Rationale

This gives reasons for inclusion of mathematics in the curriculum for all students

### Aims

This lists knowledge, skills and dispositions that the learning area is designed to produce in students.

### Structure

The content descriptions are grouped into 6 inter-related strands (Number, Algebra, Measurement, Space, Statistics, Probability) and there are a number of elaborations for each content description.

### Key Considerations

Sections under this heading include

- **The four proficiencies in mathematics**
  - understanding
  - fluency
  - reasoning
  - problem solving
- **The four mathematical processes**
  - mathematical modelling
  - computational thinking
  - statistical investigation
  - probability experiments and simulations
- **Computation, algorithms and the use of digital tools in mathematics**
- **Protocols for engaging First Nations Australians**
- **Meeting the needs of diverse learners**

### Key Connections

This lists connections between the mathematics learning area and

- the general capabilities
- the cross-curriculum priorities
- the other learning areas

## Resources

This section contains links to learning area downloads. These downloads include:

- a set of optional content for post-Year 10 mathematics pathways. These are designed to better prepare those students in Year 10 who will go on to study the more advanced maths subjects in Years 11 and 12 like Mathematical Methods and Specialist Mathematics;
- comparative information showing the differences between Version 8.4 and Version 9.0 achievement standards and content descriptions;
- a mathematical glossary.

## Dimension 2: The General Capabilities

The general capabilities to which the mathematics learning area should make a significant contribution are:

- **Literacy** – focusing on communication in mathematical contexts;
- **Numeracy** – the propensity and ability to apply mathematical ideas in real-world situations;
- **Critical and Creative Thinking** – particularly solving mathematical problems and evaluating ;mathematical ideas
- **Digital Literacy** – using digital technologies like calculators, spreadsheets, graphing software, statistical software, dynamic geometry software and computer algebra software to aid with understanding mathematical concepts and to produce required results;
- **Ethical Understanding** – particularly assessing claims and arguments made on the basis of statistical or other mathematical techniques in terms of their truth, fairness and value.

## Dimension 3: The Cross-Curriculum Priorities

The mathematics learning area should contribute to all of the cross-curriculum priorities.

- **Aboriginal and Torres Strait Islander Histories and Cultures:** students can engage with and value the histories and cultures of Australian First Nations People in relation to mathematics
- **Asia and Australia's Engagement with Asia** – the contribution of Asian nations to the development of mathematics as well as the application of mathematics to contemporary issues relating to Asia including art, design, trade and travel.
- **Sustainability:** analysis of sustainability issues of necessity requires the application of mathematical ideas and techniques, and this provides meaningful contexts in which these ideas can be developed.