

Introducing Australian Curriculum Mathematics F-10

There is much content that is consistent between the Australian Curriculum Mathematics (AC Mathematics) and the VELS Mathematics. There is some difference in structure, and some minor differences in content and/or the level at which content is introduced.

AC Mathematics is organised in three content strands (*Number and Algebra; Measurement and Geometry; Statistics and Probability*) and four proficiency strands (*Understanding, Fluency, Problem Solving and Reasoning*). The content strands are similar to combinations of the VELS Mathematics dimensions *Number* and *Structure, Space and Measurement, Chance and Data*, while the proficiency strands together are similar to the VELS Mathematics *Working Mathematically* dimension.

Each of the AC Mathematics content strands are further divided into sub-strands, which apply across year levels as indicated below:

Content strand	Substrand and Year Level
Number and Algebra	<ul style="list-style-type: none">• Number and place value (F to Year 8)• Fractions and decimals (Year 1 to Year 6)• Patterns and algebra (F to Year 10/10A)• Money and financial mathematics (Year 1 to Year 10)• Real numbers (Year 7 to Year 10/10A)• Linear and non-linear relationships (Year 7 to Year 10/10A)
Measurement and Geometry	<ul style="list-style-type: none">• Shape (F to Year 7)• Location and transformation (F to Year 7)• Using units of measurement (F to Year 10/10A)• Geometric reasoning (Year 3 to Year 10/10A)• Pythagoras and trigonometry (Year 9 to Year 10/10A)
Statistics and Probability	<ul style="list-style-type: none">• Chance (Year 1 to Year 10/10A)• Data representation and interpretation (Year F to Year 10/10A)

Summary of key differences between AC Mathematics and VELS Mathematics

Foundation to Year 6

The coverage of whole numbers is very similar. AC Mathematics introduces division with remainder at Year 5, while this is included at Level 3 in VELS Mathematics, and emphasises money problems involving profit and loss and best buys.

The coverage of fractions and decimals is very similar. The AC Mathematics includes counting with unit fractions using a number line at Year 4. VELS Mathematics includes comparing, adding and subtracting simple common fractions with the assistance of physical models at Level 3, and multiplication of fractions at Level 4.

AC Mathematics introduces the use of the Cartesian plane and coordinates in all four quadrants at Year 6, earlier than in VELS Mathematics where it is introduced at Level 5. VELS Mathematics includes simple networks from Level 2, and tessellations from Level 3, which are not included in AC Mathematics. VELS Mathematics has a more explicit emphasis on sets.

Year 7 to Year 10/10A

The overall coverage of content is very similar. AC Mathematics has a greater emphasis on financial mathematics, duration including 12 and 24 hour time zones, variation in means and proportions and the effects of individual data values. VELS Mathematics introduces non-linear functions and relations, and related algebra, at Level 5, and further develops this content at Level 6, while this material is introduced in the AC Mathematics in Year 10. AC Mathematics focuses on proof in geometric contexts, and has less emphasis than VELS Mathematics on conjecture and proof across number, geometry and algebra, and functions, relations and sets.

Year 10A

AC Mathematics Year 10A content is intended for students who plan to study function, algebra and calculus-based mathematics subjects in the senior secondary years.

VELS Level 6 also includes Year 10A content except for the following: an introduction to logarithms, circular (trigonometric) functions, sine and cosine rules, area rules for triangles and an introduction to polynomial functions and their graphs with and without the use of digital technologies; and calculation, interpretation and use of standard deviation.

Similar and other material is included in the optional content for students working beyond Level 6 of the VELS, as described in the corresponding progression points.