Video transcript

Understanding the Victorian Curriculum F–10 Version 2.0, Mathematics

Hello and welcome.

The study of mathematics is central to the learning, development and prospects of all young Victorians. The Mathematics curriculum provides the foundation for all students to develop the numeracy capabilities that they need in their personal, work and civic lives, as well as the fundamentals on which mathematical specialties and professional applications of mathematics are built.

The purpose of this video is to familiarise you with the Victorian Curriculum F–10 Version

2.0 Mathematics.

Mathematics offers students the opportunity to engage with essential knowledge and skills

whilst making connections to real-world experiences.

Let's turn our attention to the key features of the Mathematics curriculum.

Mathematical proficiency is fundamental to learning mathematics and working mathematically. The proficiencies are the what and how of mathematics in action.

The 4 proficiencies – understanding, fluency, reasoning and problem-solving, enable students to respond to familiar and unfamiliar situations, make informed decisions and adopt reflective approaches to verify and evaluate solutions.

Understanding involves making connections between conceptual and procedural understanding, as well as between different mathematical topics and to varied contexts.

Fluency pertains to the recall, selection and employment of procedures underpinned by sound conceptual understanding.

Reasoning relates to explaining one’s thinking, justifying strategies used and making inferences.

Problem-solving is associated with the exploration of a problem context by planning, selecting and applying strategies to solve a problem, frequently in a real-world scenario.

Mathematical processes refer to the thinking, reasoning, communicating, problem-solving and investigation skills involved in working mathematically.

The processes of mathematical modelling, statistical investigation, computational and algorithmic thinking and probability experiments and simulations have been embedded across the strands and increase in sophistication across Foundation to Level 10.

When students engage in mathematical modelling, they use mathematics to model real-world situations, to understand and solve problems and to make informed predictions.

Computational and algorithmic thinking involves problem decomposition, abstraction, pattern recognition, algorithm development and generalisation.

It uses experimental and logical analysis, empirical reasoning and computer-based programs, models and simulations to generate and test hypotheses and conjectures and to dynamically explore variation in the behaviour of structures, systems and scenarios.

Statistical investigation involves students planning investigations, collecting and analysing data and presenting and interpreting the results of their investigations.

Through probability experiments and simulations, students develop an understanding of experimentation through exploration and play-based learning in the early levels, progressing to conducting chance experiments and probability simulations from Level 3.

Now let's take a look at the key revisions to the Mathematics curriculum.

Mathematics Version 2.0 provides teachers and schools with a simplified and more manageable structure.

The content is now organised into 6 strands rather than the previous 3 dual strands. These are Number, Algebra, Measurement, Space, Statistics and Probability. It is important to note that there are only 5 strands at Foundation to Level 2, with probability commencing at Level 3.

This revision gives teachers and students greater scope to make connections across

different areas of mathematics.

Achievement standards and content descriptions have been refined to improve clarity for schools and teachers and are presented in a consistent structure that clearly represents the progression of learning along the continuum.

The proficiencies of understanding, fluency, reasoning and problem-solving are embedded into the content descriptions, providing teachers with a clearer picture of how proficiency in mathematics can empower and enable students to respond to familiar and unfamiliar situations.

The revised content is sequenced to strengthen the developmental progression of key mathematical concepts, skills, procedures, processes and specific mathematics content, as well as the link to the numeracy foundational skill through clearer content descriptions and elaborations.

The revisions also strengthen links with the Victorian Early Years Learning and Development Framework and align the progression of knowledge with VCE Mathematics and other senior secondary pathways.

Let’s focus now on the structure of the Mathematics Version 2.0 curriculum. Mathematics Version 2.0 is presented in 11 levels from Foundation to Level 10, with the inclusion of Level 10A to provide opportunities for students to extend their exploration of mathematical notions and further their mathematical studies.

As mentioned, the curriculum is organised into 6 interrelated strands.

The strands group the content descriptions to provide both a focus and a clear sequence for the development of related concepts and skills across levels. Mathematics Version 2.0 has achievement standards at every level. Each achievement standard outlines what students should understand and should be able to do at the end of that level.

Students' mastery of concepts under the 6 strands is indicated by their ability to demonstrate proficiency against the achievement standards. Each achievement standard in mathematics has been organised into paragraphs that reflect each of the strands.

The content descriptions are organised under the 6 previously mentioned strands. They outline what teachers need to teach and students are expected to learn at each level from Foundation to Level 10. The content in each strand may be taught separately or combined with the content from any of the other 5 strands where appropriate.

Mathematics provides opportunities for students to apply their mathematical knowledge creatively and efficiently, sharpen their sense of discovery and develop an appreciation of structure. It enables teachers to help students to become self-motivated, confident learners through practice, inquiry and active participation in relevant and challenging experiences.

For more information, I encourage you to explore the Victorian Curriculum F–10 website. The website provides easy access to the curriculum and all its supporting resources.

Thank you for watching.