Introducing Science Version 2.0

The revised Victorian Curriculum F–10 Science will give Victorian students at these levels the understanding, knowledge and skills through which they can develop a scientific view of the world and better understand the relationship between science and society. Students can then make informed decisions about science-related issues in their own lives and in societies.

Science Version 2.0 reflects the expertise and feedback of Victorian teachers, academics and industry experts, and the revised curriculum will better assist teachers to plan, assess and report on student learning.

Curriculum structure based on 3 interrelated strands

* **Content is organised into 3 interrelated strands: Science as a Human Endeavour, Science Understanding and Science Inquiry**. The elevation of Science as a Human Endeavour from a sub-strand to a strand recognises the importance of the historical development of scientific knowledge and highlights science’s relationship with society.
* **Teachers can easily integrate interrelated content across the 3 strands**. This integration promotes meaningful connections for students, fostering deeper understanding and engagement. Interrelated content allows teachers to optimise their resources by leveraging common themes and concepts across multiple strands. This reduces the need to develop separate materials for each strand and maximises the efficiency of instructional time and resources.

Clearer content descriptions aligned closely with achievement standards, plus streamlined elaborations

* **Content descriptions are more specific**, so that teachers are clear about what to teach as well as the depth and breadth to which scientific concepts and skills should be taught. The content descriptions are written as succinct statements preceded by ‘Students learn that …’.
* **Achievement standards have been refined and are preceded by verbs** to ensure that teachers are clear about how to assess what students are able to do, say, make and write.
* **Each content description aligns directly with an achievement standard**, or part of an achievement standard, to offer a clear progression of knowledge, understanding and skills across the bands (as evidenced in the scope and sequence charts). This alignment helps teachers to engage with and track student learning across all bands.
* **Between 3 and 7 new and revised elaborations are included for each content description**, and these are more streamlined and better aligned to the content descriptions.
* **Scientific concepts associated with the knowledge and practices of various Aboriginal and Torres Strait Islander Peoples** are the focus of some new elaborations.

Strengthened sustainability concepts

* **Climate concepts** are introduced at Levels 3 and 4, progressing to enabling students to examine population impacts of climate change at Levels 7 and 8, and then to analysing climate change patterns and modelling the dynamics of global climate change at Levels 9 and 10.
* **Earth is presented as a system**, progressing from basic environmental care (Foundation to Level 2) to advanced topics such as the water cycle (Levels 3 and 4), geological processes (Levels 5 and 6), the rock cycle (Levels 7 and 8) and key Earth system processes (Levels 9 and 10).
* **Designed solutions and futures thinking are fostered**. Students consider reducing, re-using and recycling materials at Foundation to Level 2, the sustainable use and re-use of Earth’s resources at Levels 3 and 4, and human actions to improve habitat conditions and to reduce the impacts of sudden geological processes and extreme weather conditions at Levels 5 and 6. Students evaluate the sustainable use of resources and compare the benefits and risks of resource extraction at Levels 7 and 8, and develop strategies to mitigate human-induced climate change at Levels 9 and 10.

Other key revisions

* **A set of inquiry questions is included in each band description**, to excite students’ curiosity and challenge their thinking.
* **Some content descriptions provide opportunities to investigate scientific concepts that underpin science-based issues and challenges in society**, such as disease control, resource management, climate change, power generation and biodiversity loss.
* **Significant connections with the capabilities across all 3 strands** make it easier for teachers to embed capabilities in and through the curriculum:
* Embedded critical and creative thinking enables students to analyse data, solve problems, and develop and test innovative solutions, and to use scientific skills to evaluate evidence, question assumptions and draw evidence-based conclusions.
* Embedded ethical understanding enables students to conduct research responsibly, report data honestly, and consider the societal and environmental impacts of scientific advancements. These skills and values not only enhance students’ scientific knowledge but also making meaningful, ethical contributions to society.

Foundation to Level 6

* Originally in Levels 7 and 8, the water cycle topic is now included at Levels 3 and 4 of the Earth and space sciences sub-strand so that it can be linked with the study of solids, liquids and gases in the Chemical sciences sub-strand.
* The function of external features of living things, properties of objects and mixtures made from different materials, and conservation of natural resources, are topics included as new content at Foundation to Level 2.
* Fossils, similarities and differences between parents and offspring, and factors that affect climate, are topics included as new content at Levels 3 and 4.
* The impacts of human activity on the survival of living things, natural hazards and human actions to reduce their impacts, and gravity as a force, are topics included as new content at Levels 5 and 6.

Levels 7 to 10

* Laboratory preparation and testing of oxygen, carbon dioxide and hydrogen gases, renewable and non-renewable resources, resource extraction and energy production, simple machines, household energy audits, and parallel and series circuits, are topics included as new content at Levels 7 and 8.
* Prediction of the outcomes of monohybrid crosses, infectious and non-infectious disease, exothermic and endothermic reactions, mitigation of human-induced climate change, space exploration and electricity generation are topics included as new content at Levels 9 and 10.
* The Levels 7 to 10 curriculum builds strong foundations for further study, including senior secondary pathways.

► For detailed revisions, see the [Science – comparison of curriculums](https://f10.vcaa.vic.edu.au/learning-areas/science/resources) document, which compares individual content descriptions and achievement standards for Version 1.0 and Version 2.0.