POLICY: SCIENCE

PURPOSE

The Victorian Science Curriculum v2.0 gives students the understandings, knowledge in Biological, Chemical, Physical and Earth sciences and skills through which they can develop a scientific view of the world and better understand the relationship between science and society to make informed decisions about science-related issues.

AIMS

Science aims to ensure students develop an:

- interest in science as a means of expanding their curiosity and willingness to explore, question and speculate on the changing world in which they live,
- an understanding of the nature of living things, the Earth and its place in the cosmos, and of the physical and chemical processes that explain the behaviour of all material things,
- understanding of the nature of scientific inquiry using varied skills, such as observing, measuring, questioning, predicting, planning, conducting, observing, exploring, manipulating, recording, processing with graphic organisers, tables and graphs, analysing and interpreting data, comparing and using tools safely,
- understanding how *The Scientific Model* is used to conduct experiment investigations, apply skills, such as posing questions, researching, hypothesising, experimenting, analysing collating data, concluding, improving and communicating scientifically,
- understanding of *Fair Testing* by determining fairness, reflecting on investigations, identifying progress and providing science-based explanations for findings,
- ability to select and integrate scientific knowledge and skills needed to explain and predict phenomena, to apply that understanding to new situations and events, and to appreciate the dynamic nature of scientific knowledge,
- ability to draw evidence-based conclusions after analysing data and evaluating results,
- ability to share and debate evidence-based findings, arguments and claims,
- an ability to solve problems and make informed, evidence-based decisions about current and future applications of science, whilst considering ethical and social implications of decisions,
- appreciation of the endeavours advancing scientific knowledge by people and their different perspectives and worldviews in the past and present,
- appreciation of the knowledge and practices applied by Aboriginal and Torres Strait Islander Peoples,

IMPLEMENTATION

Science is taught using the Victorian Curriculum [v2.0]. There are 3 inter-related strands called Science as a Human Endeavour, Science Understanding and Science Inquiry. The curriculum content is organised in 4 areas called Biological, Chemical, Physical and Earth & Space. The interrelated strands and content are taught in an integrated approach. This allows students to:

- make meaningful connections,
- foster deeper understanding and engagement,
- build upon their natural curiosity,
- nurture their sense of wonder and
- develop their passion for exploring how the world works.

Science is planned based on the *5e Model of Instruction* to develop student metacognitive capacity. The:

- Engage phase will elicit student prior knowledge.
- Explore phase will provide hands-on experience of the phenomenon.
- Explain phase will develop scientific explanations to represent observations and to develop conceptual understanding while they consider current scientific explanations.
- Elaborate phase will extend students' knowledge through planned investigations.
- Evaluate phase will re-represents student understandings and reflection on their learning journey and teach them to collect evidence about the achievement outcomes.

As the teaching and learning progresses through the phases quality teaching practices will be embedded throughout the program so that students could identify their prior knowledge, apply their understandings of literacies to develop explanations for their hands-on experiences of scientific phenomena, represent and re-represent their developing understanding, engage actively in the learning process and develop investigative skills.

Assessment is ongoing throughout the e5 phases. Diagnostic assessment occurs in the Engage phase. This assessment is to elicit students' prior knowledge so that the teacher can take account of this when planning how the Explore and Explain lessons will be implemented. Formative assessment occurs in the Explore and Explain phases. This enables the teacher to monitor students' developing understanding and provide feedback that can extend and deepen students' learning. Summative assessment of the students' achievement developed throughout the unit occurs in the Elaborate phase of the Science Inquiry Skills and of the Science Understanding in the Evaluative phase.

Cooperative learning approaches will promote more effective student learning. Students will work in teams and pairs to share knowledge, ideas and experiences. They will also consider other points of view and solutions to problems.

Authentic and purposeful learning will include real-world contexts and will require students to link to other learning areas to build upon their conceptual learning.

Students will learn to use materials and equipment safely. They will be made aware of dangers, how to be cautious, clean up spills and discuss safe practices for science activities.

Students will be taught how to express their scientific knowledge as they develop ideas through annotated illustrations with supportive text.

Classrooms should display student work, scientific vocabulary, the Scientific Model and topical charts to support student learning.

POLICY REVIEW AND APPROVAL:

Policy last reviewed	12/8/2025
Consultation	Consultation with school council and approved by School Council
Approved by	James Bell, principal
Next scheduled review date	May 2029