

# Science in Practice

## Applied senior subject

Applied

### Recommendation

A Sound Achievement (C) in Year 10 Science.

### Rationale

Science in Practice provides opportunities for students to explore, experience and learn concepts and practical skills valued in multidisciplinary science, workplaces and other settings. Learning in Science in Practice involves creative and critical thinking; systematically accessing, capturing and analysing information, including primary and secondary data; and using digital technologies to undertake research, evaluate information and present data.

Science in Practice students apply scientific knowledge and skills in situations to produce practical outcomes. Students build their understanding of expectations for work in scientific settings and develop an understanding of career pathways, jobs and other opportunities available for participating in and contributing to scientific activities.

Projects and investigations are key features of Science in Practice. Projects require the application of a range of cognitive, technical and reasoning skills and practical-based theory to produce real-world outcomes. Investigations follow scientific inquiry methods to develop a deeper understanding of a particular topic or context and the link between theory and practice in real-world and/or lifelike scientific contexts.

By studying Science in Practice, students develop an awareness and understanding of life beyond school through authentic, real-world interactions to become responsible and informed citizens. They develop a strong personal, socially oriented, ethical outlook that assists with managing context, conflict and uncertainty. Students gain the ability to work effectively and respectfully with diverse teams to maximise understanding of concepts, while exercising flexibility, cultural awareness and a willingness to make necessary compromises to accomplish common goals. They learn to communicate effectively and efficiently by manipulating appropriate language, terminology, symbols and diagrams associated with scientific communication.

The objectives of the course ensure that students apply what they understand to explain and execute procedures, plan and implement projects and investigations, analyse and interpret information, and evaluate procedures, conclusions and outcomes.

Workplace health and safety practices are embedded across all units and focus on building knowledge and skills in working safely, effectively and efficiently in practical scientific situations.

### Pathways

A course of study in Science in Practice is inclusive and caters for a wide range of students with a variety of backgrounds, interests and career aspirations. It can establish a basis for further education and employment in many fields, e.g. animal welfare, food technology, forensics, health and medicine, the pharmaceutical industry, recreation and tourism, research, and the resources sector.

### Objectives

The syllabus objectives outline what students have the opportunity to learn.

1. Describe ideas and phenomena.
2. Execute procedures.
3. Analyse information.
4. Interpret information.
5. Evaluate conclusions and outcomes.
6. Plan investigations and projects.

### Delivery (mode, time requirements, lessons)

Students are expected to undertake independent study to complete tasks and assessment in accordance with the Work Rate Calendar. Students also have access to a scheduled lessons and a one-hour tutorial each week.

### Student requirements

Computer, access to email and internet, telephone and USB headset with microphone, exercise book, stationery.

## Field work

It is anticipated that approximately five hours of field work will be required for learning and assessment in each unit.

## Course structure

Unit 1	Unit 2	Unit 3	Unit 4
<b>Consumer Science</b> <ul style="list-style-type: none"><li>• Topic 1: Microorganisms in Food Production</li><li>• Topic 2: Consumer Protection</li></ul>	<b>Sustainability</b> <ul style="list-style-type: none"><li>• Topic 1: Eco-friendly outdoor events</li><li>• Topic 2: Sustainable Housing</li></ul>	<b>Ecology</b> <ul style="list-style-type: none"><li>• Topic 1: Water Quality and Land Use</li><li>• Topic 2: Life on land</li></ul>	<b>Transport</b> <ul style="list-style-type: none"><li>• Topic 1: Networks Smart Cities</li><li>• Topic 2: Collisions</li></ul>

## Assessment

### Formative assessment

Unit 1	Unit 2
Formative internal assessment 1 (FIA1): Practical Project	Formative internal assessment 3 (FIA3): Applied Investigation
Formative internal assessment 2 (FIA2): Applied Investigation	Formative internal assessment 4 (FIA4): Practical Project

### Summative assessment

Unit 3	Unit 4
Summative internal assessment 1 (IA1): Practical Project	Summative internal assessment 3 (IA3): Applied Investigation
Summative internal assessment 2 (IA2): Applied Investigation	Summative internal assessment 4 (IA4): Practical Project

Applied senior syllabuses contain assessment specifications and conditions for the assessment instruments that must be implemented with Units 3 and 4. These specifications and conditions ensure comparability, equity and validity in assessment.

In Units 3 and 4, schools develop four assessments using the assessment specifications and conditions provided in the syllabus. Students will also receive an overall subject result (A–E).

More information about assessment in senior syllabuses is available in 'The assessment system' section of the QCE and QCIA policy and procedures handbook.

**Disclaimer** All of the above information is accurate at the time of publication.