

Science in Practice

Applied senior subject

Applied

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

By the conclusion of the course of study students should:

- describe ideas and phenomena
- execute procedures
- analyse information
- interpret information
- evaluate conclusions and outcomes
- plan investigations and projects.

Structure

Science in Practice is a four-unit course of study. This syllabus contains six QCAA-developed units as options for schools to select from to develop their course of study.

| Unit option | Unit title |
|---------------|------------------|
| Unit option A | Consumer science |
| Unit option B | Ecology |
| Unit option C | Forensic science |
| Unit option D | Disease |
| Unit option E | Sustainability |
| Unit option F | Transport |

Assessment

Students complete two assessment tasks for each unit. The assessment techniques used in Science in Practice are:

| Technique | Description | Response requirements |
|-----------------------|--|---|
| Applied investigation | Students investigate a research question by collecting, analysing and interpreting primary or secondary information. | One of the following: <ul style="list-style-type: none">• Multimodal (at least two modes delivered at the same time): up to 7 minutes, 10 A4 pages, or equivalent digital media• Written: up to 1000 words |
| Practical project | Students use practical skills to complete a project in response to a scenario. | Completed project One of the following: <ul style="list-style-type: none">• Product: 1• Performance: up to 4 minutes Documented process Multimodal (at least two modes delivered at the same time): up to 5 minutes, 8 A4 pages, or equivalent digital media |