Highfields State Secondary College

Semester 2 Course Overview

Subject: Science

Year level: 8

Course Outline

The Australian Curriculum: Science has three interrelated strands: *Science Understanding, Science as a Human Endeavour* and *Science Inquiry Skills*.

Together, the three strands of the science curriculum provide students with understanding, knowledge and skills through which they can develop a scientific view of the world. Students are challenged to explore science, its concepts, nature and uses through clearly described inquiry processes.

Term 3	Term 4
Physics and Body systems	**Ecology and Geology**
Students describe models of energy transfer and apply these to explain phenomena. Students identify human body systems and the ways in which they work together in balance to support life. They outline how the functions of the systems are coordinated to provide the essential requirements for life. Students analyse and predict the effects of the environment on body systems, and discuss how the body responds to changes in the environment. Students consider current and future developments in vaccine technology and reflect on how the needs of society influence the focus of scientific research. They describe social and technological factors that have influenced scientific developments and predict how future applications of science and technology may affect people's lives. They analyse trends in data, identify relationships between variables and reveal inconsistencies in results. They evaluate others' methods and explanations from a scientific perspective and use appropriate language and representations when communicating their findings and ideas to specific audiences.	They examine and compare organs and systems in other animals and plants. Students research the structure of a system and its component organs and describe how the structure supports the functions of the system within the body. Students investigate the relationship between structure and function in the systems of vascular plants. Students explore the historical development of the theory of plate tectonics. They model and investigate geological processes involved in Earth movement. Students compare different types of tectonic-plate boundaries and the tectonic events which occur at these boundaries. They explore technological developments that have aided scientists in the study of tectonic-plate movement and consider how these assist societies living in tectonic-event areas. Students research the impact of tectonic events such as earthquakes, tsunamis and volcanoes on humans and describe where science and technology are contributing to the development of safer buildings.
Assessment	
Student Experiment - Students will conduct an investigation and modify methodology to collect and analyse primary data. **Research Investigation** - Students will research, analyse and interpret secondary evidence from scientific texts to answer the research topic.	**Exam** - Students will complete a supervised assessment under timed conditions. Science exams allow students to demonstrate understanding and knowledge of key concepts.

Literacy requirements:

This unit provides opportunities for students to engage in the Australian Curriculum Content and build upon the literacy skills of:

- using technical and specific terms for concepts and features of the world,
- presenting scientific information in the form of diagrams, flow charts, tables and graphs

- comprehending and composing texts, including those that provide information, describe events and phenomena, recount experiments, present and evaluate data, give explanations and present opinions or claims.

Numeracy requirements:

This unit provides opportunities for students to engage in the Australian Curriculum Content and build upon the numeracy skills of:

- collecting, representing and interpreting data from investigations.
- Use of formal units to provide accurate results in measuring and testing across a range of science topics.