Lanyon High School

Year 9 — Australian Curriculum: Science

Identify curriculum — **Achievement standard**

By the end of Year 9, students explain how body systems provide a coordinated response to stimuli. They describe how the processes of sexual and asexual reproduction enable survival of the species. They explain how interactions within and between Earth's spheres affect the carbon cycle. They analyse energy conservation in simple systems and apply wave and particle models to describe energy transfer. They explain observable chemical processes in terms of changes in atomic structure, atomic rearrangement and mass.

Teaching and learning — **Semester overview**

Semester 1

TERM 1: PHYSICS

During this term students will explore and identify different ways in which heat energy is transferred between objects and determine how light and sound travel. They will then apply this understanding to explore and explain a variety of phenomena.

TERM 2: EARTH AND SPACE SCIENCES

During this term students will represent the carbon cycle and examine how key processes including combustion, photosynthesis and respiration rely on interactions between Earth's spheres.

Science Inquiry Skills

- They analyse and connect data, and information to identify and explain patterns, trends, relationships and anomalies.
- They construct logical arguments based on evidence to support conclusions and evaluate claims.
- They analyse the impact of assumptions and sources of error in methods and evaluate the validity of conclusions and claims.
- They select and use content, language and features effectively to achieve their purpose when communicating their ideas, finding and arguments to specific audiences.

Science as a Human Endeavour

- They analyse the different ways in which science and society are interconnected.

Semester 2

TERM 3: BIOLOGY

During this term students will learn to describe and analyse how different biological systems function and respond to external changes. They will describe the form and function of reproductive cells and organs in animals and plants, and analyse how different methods of reproduction enable the survival of species.

TERM 4: CHEMISTRY

This term students explore how models of the atom have changed over time, including the discovery of electrons, protons, and neutrons. They will describe how natural radioactive decay results in stable atoms and model the arrangement of atoms in chemical reactions.

Science Inquiry Skills

- Students plan and conduct safe, reproducible investigations to test or identify relationships and models. They describe how they have addressed any ethical and intercultural considerations when generating or using primary and secondary data.
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- They select and use equipment to generate and record replicable data with precision.
- They select and construct appropriate representations to organise, process and summarise data and information.

Science as a Human Endeavour

- Students explain the role of publication and peer review in the development of scientific knowledge and explain the relationship between science, technologies and engineering.

General capabilities and cross curriculum priorities

Key to general capabilities and cross-curriculum priorities

Literacy · Numeracy · ICT capability · Critical and creative thinking · Ethical behaviour · Personal and social capability · Intercultural understanding · Aboriginal and Torres Strait Islander histories and cultures · Asia and Australia's engagement with Asia · Sustainability

Develop assessment — **Assessment**

Semester 1		Semester 2	
Week	**Assessment instrument**	**Week**	**Assessment instrument**
5	Physics Test	9	Biology test
9-10	Light and Sound Assessment	13	Conservation of Mass Investigation
15-16	Carbon Cycle Assessment	16-17	Chemistry Test

Make judgments — **Moderation**

Teachers moderate assessment tasks to ensure consistency of judgments.