Lanyon High School

Year 7 — Australian Curriculum: Science

Identify curriculum	**Achievement standard**	By the end of Year 7 students explain how biological diversity is ordered and organised. They represent flows of matter and energy in ecosystems and predict the effects of environmental changes. They model cycles in the Earth-sun-moon system and explain the effects of these cycles on Earth phenomena. They represent and explain the effects of forces acting on objects. They use particle theory to explain the physical properties of substances and develop processes that separate mixtures. Students identify the factors that can influence development of and lead to changes in scientific knowledge. They explain how scientific responses are developed and can impact society. They explain the role of science communication in shaping viewpoints, policies and regulations.Students plan and conduct safe, reproducible investigations to test relationships and aspects of scientific models. They identify potential ethical issues and intercultural considerations required for field locations or use of secondary data. They use equipment to generate and record data with precision. They select and construct appropriate representations to organise data and information. They process data and information and analyse it to describe patterns, trends and relationships. They identify possible sources of error in methods and identify unanswered questions in conclusions and claims. They identify evidence to support their conclusions and construct arguments to support or dispute claims. They select and use language and text features appropriately for their purpose and audience when communicating their ideas and findings.

Teaching and learning

Term overview

Semester 1		Semester 2	
CHEMISTRY During this term students investigate a range of physical separation techniques such as filtration, evaporation, decantation, and distillation. Students use particle theory to describe differences between pure substances and mixtures and apply this understanding to physical separation techniques. **Science Inquiry Skills** They select and use language and text features appropriately for their purpose and audience when communicating their ideas and findings. They identify potential ethical issues and intercultural considerations required for field locations or use of secondary data. Students plan and conduct safe, reproducible investigations to test relationships and aspects of scientific models.	**BIOLOGY** During this term students learn biological classification and focus on the interaction between organisms. Using this knowledge and understanding students will be able to create a food web and dichotomous key. **Science Inquiry Skills** Identifies possible sources of error in methods and identifies unanswered questions in conclusions and claims They select and construct appropriate representations to organise data and information. They use equipment to generate and record data with precision.	**EARTH AND SPACE** During this term students learn about the interrelationship of the Sun, Earth, and the Moon. They explore seasons on Earth, phases of the moon, as well as spring and neap tides. Students will simulate and analyse impact craters and learn to differentiate between renewable and non-renewable resources available on Earth. **Science Inquiry Skills** They process data and information and analyse it to describe patterns, trends and relationships. **Science as a Human Endeavour** Students identify the factors that can influence development of and lead to changes in scientific knowledge. They explain the role of science communication in shaping viewpoints, policies and regulations.	**PHYSICS** During this term students investigate forces, and how they can change the motion of an object. Students consider the impact of friction on moving objects and appreciate the role of forces in their everyday lives. Using this knowledge and understanding students will measure the change of frictional force required to move an object across different surfaces of varying roughness. **Science Inquiry Skills** They identify evidence to support their conclusions and construct arguments to support or dispute claims. **Science as a Human Endeavour** They explain how scientific responses are developed and can impact society.

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**	**Week**	**Assessment instrument**	**Week**	**Assessment instrument**
3-6	Separation methods practical assessment	12-14	Ecology multiple choice quiz	4	Science skills practicals	13-14	Friction practical assessment
7-8	Chemistry test	15-17	Biology test	7	Earth and space test	16-18	Physics test

Make judgments and use feedback

Moderation

Teachers moderate assessment tasks to ensure consistency of judgments.