Lanyon High School

Year 8 — Australian Curriculum: Science

Identify curriculum	**Achievement standard**	By the end of Year 8 students explain the role of specialised cell structures and organelles in cellular function and analyse the relationship between structure and function at organ and body system levels. They apply an understanding of the theory of plate tectonics to explain patterns of change in the geosphere. They explain how the properties of rocks relate to their formation and influence their use. They compare different forms of energy and represent transfer and transformation of energy in simple systems. They classify and represent different types of matter and distinguish between physical and chemical change. Students analyse how different factors influence development of and lead to changes in scientific knowledge. They analyse the key considerations that inform scientific responses and how these responses impact society. They analyse the importance of science communication in shaping viewpoints, policies and regulations. Students plan and conduct safe, reproducible investigations to test relationships and explore models. They describe potential ethical issues and intercultural considerations needed for specific field locations or use of secondary data. They select and use equipment to generate and record data with precision. They select and construct appropriate representations to organise and process data and information. They analyse data and information to describe patterns, trends and relationships and identify anomalies. They identify assumptions and sources of error in methods and analyse conclusions and claims with reference to conflicting evidence and unanswered questions. They construct evidence-based arguments to support conclusions and evaluate claims. They select and use language and text features appropriately for their purpose when communicating their ideas, findings and arguments to specific audiences.	
Teaching and learning	**Semester overview**	**Semester 1**	**Semester 2**
		EARTH AND SPACE During this term students explore plate tectonics and learn how rocks are formed and destroyed through the exploration of the rock cycle. Students will identify and model the formation of sedimentary, igneous, and metamorphic rocks in both a theoretical and practical setting. Using this knowledge and understanding students will be able to identify a range of different rocks and minerals. **Science Inquiry Skills** They identify assumptions and sources of error in methods and analysis conclusions and claims with reference to conflicting evidence and unanswered questions. They select and use language and text features appropriately for their purpose when communicating their ideas, findings and arguments to specific audiences.	**PHYSICS** During this term students explore and identify different forms of energy and describe how energy transfers and transformations cause change in simple systems. In addition, students will learn the concept of energy efficiency and using this knowledge and understanding will be able to demonstrate energy lost between energy transformations using either a flow diagram or Sankey diagram. **Science Inquiry Skills** Students plan and conduct safe, reproducible investigations to test relationships and explore models. They select and use equipment to generate and record data with precision. **Science as a Human Endeavour** They analyse the importance of science communication in shaping viewpoints, policies, and regulations.	**CHEMISTRY** During this term students compare physical and chemical changes and classify matter as elements, compounds, and mixtures. Students will observe the behaviour of particles during a range of experiments and use indicators to identify when change has occurred. **Science Inquiry Skills** They describe potential ethical issues and intercultural considerations needed for specific field locations or use of secondary data. They select and construct appropriate representations to organise and process data and information.	**BIOLOGY** During this term students analyse the relationship between structure and function at the cell, tissue, organ, and body system levels. Students will be able to identify cell organelles in both a theoretical and practical setting and be able to describe the function of different cell organelles. **Science Inquiry Skills** They analyse data and information to describe patterns, trends and relationships and identify anomalies. They construct evidence-based arguments to support conclusions and evaluate claims. **Science as a Human Endeavour** Students analyse how different factors influence development of and lead to changes in scientific knowledge. They analyse the key considerations that inform scientific responses and how these responses 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**

		4-5	Rock cycle mini assignment	4-5	Physical and chemical change assessment
		7-8	Geology test	7-8	Weekly Practicals
		13-14	Energy investigation	13-14	Cell model
		16-17	Sustainability practicals	16-17	Biology test
Make judgments and use feedback	**Moderation**	**Semester 1**		**Semester 2**	
		Teachers moderate assessment tasks to ensure consistency of judgments.			