Lanyon High School

9/10 Small Group — Australian Curriculum: Science (2024)



Science Understanding

Students will study skills and content appropriate to their ability level under the topics listed below. All content is drawn from the Australian Science Curriculum, ranging from Foundation to Year 10 according to individual student ability level.

Broadly, by the end of the year, students classify different types of energy as kinetic or potential and investigate energy transfer and transformations in simple systems, and apply the law of conservation of energy to analyse system efficiency in terms of energy inputs, outputs, transfers and transformations. They will investigate Newton's laws of motion and quantitatively analyse the relationship between force, mass and acceleration of objects. Students will explain how the big bang theory models the origin and evolution of the universe and analyse the supporting evidence for the theory. They will recognise cells as the basic units of living things, compare plant and animal cells, and describe the functions of specialised cell structures and organelles, and; explain the role of meiosis and mitosis and the function of chromosomes, DNA and genes in heredity and predict patterns of Mendelian inheritance.

Source: Australian Curriculum, Assessment and Reporting Authority (ACARA), Australian Curriculum: Science for Foundation-10, https://v9.australiancurriculum.edu.au/teacher-resources/understand-this-learning-area/science

Identify curriculum Achievement standard

Science as Human Endeavour

Students will study skills and content appropriate to their ability level under the topics listed below. All content is drawn from the Australian Science Curriculum, ranging from Foundation to Year 10 according to individual student ability level.

Broadly, by the end of the year, students will explain how scientific knowledge is validated and refined, including the role of publication and peer review, and; investigate how advances in technologies enable advances in science, and how science has contributed to developments in technologies and engineering.

Source: Australian Curriculum, Assessment and Reporting Authority (ACARA), Australian Curriculum: Science for Foundation-10, https://v9.australiancurriculum.edu.au/teacher-resources/understand-this-learning-area/science.

Science Inquiry

Students will study skills and content appropriate to their ability level under the topics listed below. All content is drawn from the Australian Science Curriculum, ranging from Foundation to Year 10 according to individual student ability level.

Broadly, by the end of the year, students will develop investigable questions to identify patterns and test relationships and make reasoned predictions, and; plan and conduct repeatable investigations to answer questions including, as appropriate, deciding the variables to be changed, measured and controlled in fair tests; describing potential risks; planning for the safe use of equipment and materials; and identifying required permissions to conduct investigations on Country/Place.

Source: Australian Curriculum, Assessment and Reporting Authority (ACARA), Australian Curriculum: Science for Foundation-10, https://v9.australiancurriculum.edu.au/teacher-resources/understand-this-learning-area/science

			Term 1	Term 2	Term 3	Term 4	
aı	ching nd ming	Term overview	 1. Does Every Drop Count? Exploration of water conservation principles Sustainability and application of real world water conservation Significant beliefs and global practices United Nations Sustainable Development Goal 6: Clean Water and Sanitation 	2. How is energy created, stored and used? - Compare and contrast forms of energy - Identify how we create and use energy - For persuasive arguments for energy creating based of scientific investigation	3. The Big Bang Theory Describe major components of the universe Create a timeline outlining major events in the creation of our universe Investigate phenomena within the wider universe such as blackholes.	4. How do reproduction cycles differ between species - Explain how genetic information is passed onto offspring - Use pedigree diagrams to explain patterns of inheritance - Explore how first nations people knowledge of heredity as evidenced by family structures	

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	Cross curriculum priorities											
	General Capabilities		♣ ₩ ⊕									
	Key to general capabilities and cross-curriculum priorities	capabilities and literacy Numeracy ICT capability Critical and creative thinking Ethical behaviour Personal and social capability Intercultural understanding ross-curriculum Aboriginal and Torres Strait Islander histories and cultures Asia and Australia's engagement with Asia Sustainability										
		Term 1		Term 2		Term 3		Term 4				
		Week	Assessment instrument	Week	Assessment instrument	Week	Assessment instrument	Week	Assessment instrument			
Develop assessment	Assessment	1-10	Learning tasks / Bookwork	1-10	Learning Tasks / Bookwork	1-10	Ongoing Bookwork	1-10	Learning Tasks / Bookwork			
		4	Clean Water and Sanitation Project	5	Self directed energy creation Project	3	PEC / Information Report	5	Poster explaining hereditary patterns			
		9	Clean Water Solutions Prototype	9	Liveability report	9	Ancient Greece Inquiry Project	8	Oral Presentation			
Make judgments	Moderation	Teachers moderate learning tasks and bookwork to ensure consistency of judgments.		Teachers moderate learning tasks and bookwork to ensure consistency of judgments.		Teachers moderate learning tasks and bookwork to ensure consistency of judgments.		Teachers moderate learning tasks and bookwork to ensure consistency of judgments.				