

Australian Curriculum: Science — Year 7

Year level plan-2023

CURRICULUM	SEMESTER 1		SEMESTER 2	
	Term 1	Term 2	Term 3	Term 4
Unit name	Separation Techniques	Heavenly bodies and sensational seasons	Forces and movement	Organising and affecting organisms
Unit description	<p>In this unit, students consider the importance of water and the water cycle. They investigate mixtures, including solutions, pure substances and a range of separation techniques. Students consider everyday applications of the separation techniques and relate their use in a variety of occupations. Students plan and conduct investigations into the separation of mixtures and use their data to draw conclusions.</p> <p>Students investigate the application of filtration systems in water treatment and recycling processes in the community. They compare and contrast artificial treatment process and the waster cycle to understand community use of water and the importance of water security.</p>	<p>In this unit, students investigate the interrelationships between the sun, Earth and moon system. They explore predictable phenomena such as eclipses, tides, phases of the moon and solar phenomena. Students examine how science and technology have contributed addressing to the issue of solar storms and reducing their effects on Earth.</p> <p>Drawing on their knowledge of the relative positions of the Earth, moon and sun, students examine the seasons, different cultural understandings of the seasons and explore how science understandings influence the development of practices within agriculture, marine and terrestrial resource management. Students examine data about weather and climate from different sources and examine the impact of seasons on animals, plants and human endeavours, such as farming.</p> <p>This unit is supported by a Virtual Reality Module- <i>Earth and Space Sciences</i>. Immersive Pedagogy supporting documentation is available as part of this module.</p>	<p>In this unit, students develop an understanding of how forces affect the motion. They apply their understanding of balanced and unbalanced forces to justify conclusions. Students investigate the impact of friction on moving objects and the forces that are involved in every day scenarios. They critically process and accurately analyse experimental data to draw evidence-based conclusions and communicate using scientific terminology and representations. Students consider how understanding of forces has contributed to solving problems in the community and how people use forces in their jobs and recreation activities.</p> <p>Students explore the effects of gravity and consider the difference between mass and weight. They develop and conduct a testing process to answer identified questions, taking into account fair testing. Students apply knowledge to construct and test a parachute, including design modifications, and investigate forces acting on the parachute.</p> <p>This unit is supported by a Virtual Reality Module-<i>Gravity</i>. Immersive Pedagogy supporting documentation is available as part of this module.</p>	<p>In this unit, students classify organisms based on their physical characteristics. They apply scientific conventions to construct and use dichotomous keys to assist and describe classification. Students analyse the effectiveness of dichotomous keys and suggest improvements. Students consider how and why classification systems are used in a variety of occupations. They explore feeding relationships between organisms in an environment using food chains and food webs and construct representations of these relationships using secondary data.</p> <p>Students review their understanding of food webs to identify how human activity can impact food webs in the marine environment. They summarise and analyse data and consider how science and technology contribute to finding solutions to issues related to marine-resource management. Students propose practices to address resource-management and sustainability issues. They examine how people use their science understanding and skills in a variety of occupations.</p> <p>This unit is supported by Virtual Reality Modules- <i>Food Chains & Food Webs and Organisms</i>. Immersive Pedagogy supporting documentation is available as part of this module.</p>

ASSESSMENT		SEMESTER 1			SEMESTER 2		
		Separation Techniques-AT1	Heavenly Bodies - AT2	Sensational Seasons - AT3	Parachutes-AT4	Dichotomous Keys-AT5	Ecosystem Interactions
Range and balance of summative assessment conventions	Technique	Experimental Investigation	Examination	Investigation	Experimental Investigation	Examination	Investigation
	Text types	Scientific report	Short answer	Portfolio	Scientific report	Short answer	Scientific report
	Mode	Written	Written	Written	Written	Written	Written
	Conditions	- Class time 3wks - Individual - 400-600 words	- 60min +10min perusal - Short response - Exam conditions	- Class time 3wks - Individual - 400-600 words	- Class time 3wks - Individual - 400-600 words	- 70min +10min perusal - Short response - Exam conditions - 3 sessions	- Class time 3wks - Individual - 400-600 words
Aspects of the achievement standard							
describe techniques to separate pure substances from mixtures.		✓					
represent and predict the effects of unbalanced forces, including Earth's gravity, on motion					✓		
explain how the relative positions of Earth, the sun and moon affect phenomena on Earth			✓	✓			
analyse how the sustainable use of resources depends on the way they are formed and cycle through Earth systems				✓			
predict the effect of human and environmental changes on interactions between organisms and classify and organise diverse organisms based on observable differences						✓	✓
describe situations where scientific knowledge from different science disciplines and diverse cultures has been used to solve a real-world problem				✓			✓
explain possible implications of the solution for different groups in society				✓			✓
identify questions that can be investigated scientifically		✓			✓		
plan fair experimental methods, identifying variables to be changed and measured		✓			✓		
select equipment that improves fairness and accuracy and describe how they considered safety		✓			✓		
draw on evidence to support conclusions		✓			✓		
summarise data from different sources, describe trends and refer to the quality of their data when suggesting improvements to their methods		✓		✓	✓		

communicate ideas, methods and findings using scientific language and appropriate representations.	✓	✓	✓	✓	✓	✓
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Term 1

Term 2

Term 3

Term 4



indicates opportunities that summative assessments provide for students to demonstrate evidence against aspects of the achievement standard