Australian Curriculum V9.0 Alignment • Year 6 • Space innovators

**Year 6**

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| **Science understanding core concept:** Earth is part of an astronomical system; interactions between Earth and celestial bodies influence the Earth system. **Science as a human endeavour core concept:**Science knowledge is a result of individual and collaborative efforts, and advances reflect historical and global contributions. |
| **Sub-strand** | **Content descriptor** | **AC code** | **Achievement Standard** | **How the sequence addresses this content** |
| SHE: Nature and development of science | Examine why advances in science are often the result of collaboration or build on the work of others. | AC9S6H01 | Explain why science is often collaborative and describe different individuals’ contributions to scientific knowledge. | Consider how Eratosthenes tested his claims about the shape of the Earth and shared this knowledge. (Lesson 1)Examine the history of claims about the position of the Sun, Earth and Moon (Lessons 1 and 2) and the scientific innovations that resulted in and from exploration of space. (Lessons 2, 6-8)Design an innovation to enable further space exploration. (Lesson 8) |
| SHE: Use and influence of science | Investigate how scientific knowledge is used by individuals and communities to identify problems, consider responses and make decisions. | AC9S6H02 | Describe how individuals and communities use scientific knowledge. | Examine how innovations contributed to societies understanding of the solar system and the position of the Sun, Earth and Moon. (Lesson 2)Describe how they own innovation might contribute to society. (Lesson 8) |
| SU: Physical sciences | Describe the movement of Earth and other planets relative to the Sun and model how Earth’s tilt, rotation on its axis and revolution around the Sun relate to cyclic observable phenomena, including variable day and night length. | AC9S6U02 | Model the relationship between the Sun and planets of the solar system and explain how the relative positions of Earth and the Sun relate to observed phenomena on Earth. | Model claims about the position and movement of the Earth, Sun and Moon, other planets, and how this knowledge explains observable phenomena such as day and night. (Lessons 2-6)Explore the relative positions and sizes of the planets and their orbits around the Sun (Lessons 2-4, 6) |
| SI: Questioning and predicting | Pose investigable questions to identify patterns and test relationships and make reasoned predictions. | AC9S6I01 | Plan safe, repeatable investigations to identify patterns and test relationships and make reasoned predictions. | Pose investigable questions to test relationship between form and function, and draw reasonable conclusions about how one effects the other by investigating how parachute design affects the fall time of a command module. (Lesson 7) |
|  SI: Planning and conducting  | 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. | AC9S6I02 | Plan safe, repeatable investigations to identify patterns and test relationships and make reasoned predictions.Describe risks associated with investigations and key intercultural considerations when planning field work.Identify variables to be changed, measured and controlled. | Determine which is the variable being tested and which variable is being measured, and which other variables might affect their investigations and need to be kept the same. (Lesson 7) |
| SI: Planning and conducting | Use equipment to observe, measure and record data with reasonable precision, using digital tools as appropriate. | AC9S6I03 | Use equipment to generate and record data with appropriate precision. | Select and use instruments with the correct scale for measuring data with appropriate accuracy, such as a stopwatch and a laser distance meter. (Lessons 6, 7) |
| SI: Processing, modelling and analysing | Construct and use appropriate representations, including tables, graphs and visual or physical models, to organise and process data and information and describe patterns, trends and relationships. | AC9S6I04 | Construct representations to organise and process data and information and describe patterns, trends and relationships. | Construct or reconstruct models to evaluate evidence. (Lessons 2-6)Organise information in graphic organisers to describe patterns and trends. (Lessons 2-6) |
| SI: Evaluating | Compare methods and findings with those of others, recognise possible sources of error, pose questions for further investigation and select evidence to draw reasoned conclusions. | AC9S6I05 | Identify possible sources of error in their own and others’ methods and findings, pose questions for further investigation and select evidence to support reasoned conclusions. | Work collaboratively to identify the strengths and weaknesses of their own and others’ investigations including where testing was not fair, and practices could be improved. (Lesson 7) |
| SI: Communicating | Write and create texts to communicate ideas and findings for specific purposes and audiences, including selection of language features, using digital tools as appropriate. | AC9S6I06 | Select and use language features effectively for their purpose and audience when communicating their ideas and findings. | Share ideas about claims and the results of their modelling and investigations as a means of building consensus and shared understanding (Lessons 2-7)Share their designs for a new space innovation, how it builds on the work of others, and what they hope it will bring to the world. (Lesson 8) |