

2026 Semester 2- Year 7 Unit Outline

Science

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Faculty: Science

Unit Duration: Semester 2, 2026

The **Australian Curriculum Achievement Standards in Science** has three interrelated strands: Science Understanding, Science as a Human Endeavour and Science Inquiry Skills. Together, the three strands of the science curriculum provide students with understanding, knowledge and skills through which they can develop a scientific view of the world. Students are challenged to explore science, its concepts, nature and uses through clearly described inquiry processes.

Australian 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.

Unit Description: In Semester 2, Year 7 students explore different scientific disciplines and how they solve real world problems. They represent and explain the effects of forces acting on objects. They use models, including food webs, to represent matter and energy flow in ecosystems and predict the impact of changing abiotic and biotic factors on populations. Students investigate the role of classification in ordering and organising the diversity of life on Earth and use and develop classification tools including dichotomous keys. They plan and conduct reproducible investigations to answer questions and test hypotheses, including identifying variables and assumptions and, as appropriate, recognising and managing risks, considering ethical issues and recognising key considerations. They make accurate measurements and control variables to analyse relationships between system components. They select and construct appropriate representations, including tables, graphs, models and mathematical relationships, to organise and process data and information. They analyse data and information to describe patterns, trends and relationships and identify anomalies. They construct evidence-based arguments to support conclusions or evaluate claims and consider any ethical issues and cultural protocols associated with using or citing secondary data or information.

Essential Learning Outcomes developed from the Achievement Standards of the Australian Curriculum:

1. **V9.S.7.04** - Represents and explains the effects of forces acting on objects
2. **V9.S.7.02** - Represents flows of matter and energy in ecosystems and predicts the effects of environmental changes
3. **V9.S.7.01**- Explains how biological diversity is ordered and organised
4. **V9.S.7.09** - Plans and conducts safe, reproducible investigations to test relationships and aspects of scientific models
(*planning and conducting*)
5. **V9.S.7.12** - Selects and constructs appropriate representations to organise data and information (*Planning and Conducting*)
6. **V9.S.7.13** - Processes data and information and analyses it to describe patterns, trends and relationships (*Analysing*)
7. **V9.S.7.15** - Identifies evidence to support their conclusions and constructs arguments to support or dispute claims
(*Evaluating*)
8. **V9.S.7.16** - Selects and uses language and text features appropriately for their purpose when communicating their ideas, findings and arguments to specific audience (Communication)

Materials and Equipment Required: Students are expected to arrive at every class with a class book/folder to write notes for that subject, a writing instrument and a Chromebook or similar, appropriate electronic device. Students may also be required to provide the following additional materials and equipment: Scissors, Glue, Ruler, and Scientific Calculator

Absences from Class: Students who miss classes due to absence or excursions must negotiate with the class teacher to catch up missed work.

Use of IT in Class: A Google Classroom and Stileapp class has been set up for this class. Students will be required to log into these platforms regularly to access course material. Students must bring a personal device (not a smartphone) to all lessons, however, the use of these devices in class will be at the discretion of the teacher.

Homework: Any homework will be directly related to instruction and course requirements, will be assessed appropriately and may impact upon student grades. Examples of homework may include; catch up on missed classwork, revision of classwork, study for tests, assignment work, or preparation for a class presentation.

Late Work: Extensions may be negotiated with individual teachers before the due date

Plagiarism: Plagiarism is copying or using another's work and claiming it as your own. This includes copying, cutting and pasting text or using ideas directly from a text, the internet or some other source without appropriate referencing. The use of Generative AI to produce your work, or edit it so that it no longer reflects your work, is a form of plagiarism. If this happens, work may not be graded and students will be asked to discuss the assessment with the classroom teacher and Executive Teacher for that subject. If a teacher suspects a student may have plagiarised their work they may choose to assess the student in an alternative way, such as verbally or under test conditions. Parents may be contacted as part of this process.

Assessment Portfolio: This contains evidence of work from the opportunities the students have been provided to demonstrate elements of the achievement standard.

Portfolio Assessment Tasks for this subject will include:

Week / Date Due

Essential Learning

1. Scientific Report – Forces (parachutes)	Week: 4	4, 8
2. Test – Forces	Week: 8	1
3. Scientific report – Camouflage	Week: 12	5, 6, 7, 8
4. Test – Ecology & Classification	Week: 17	1, 2
5. In-Class Investigations and Common Formative Assessments	Ongoing	All

A-E Reporting Grade Descriptors These are the grades and grade descriptors for reporting at the end of each Semester.

A	Demonstrating excellent achievement of what is expected (Consistently achieving a proficiency level of 4 or above in each of the Essential Learnings)
B	Demonstrating a high achievement of what is expected (Consistently achieving a proficiency level of between 3 and 4 in each of the Essential Learnings)
C	Demonstrating satisfactory achievement of what is expected (Achieving a proficiency level of 3 across the Essential Learnings)
D	Demonstrating partial achievement of what is expected (Achieving a proficiency of between 1 and 3 across the Essential Learnings)
E	Demonstrating limited achievement of what is expected (Achieving a proficiency of 1 or less in each of the Essential Learnings)

S **Status** is awarded where unavoidable circumstances have prevented assessment. Must be negotiated with the Principal.

Grade Descriptors and the "C" grade

In ACT public schools the Australian Curriculum Achievement Standard is aligned with a 'C' grade. The 'C' grade indicates that your child has demonstrated a satisfactory level of knowledge, understanding and skill in relation to the Achievement Standard.

Appeals

A student must initiate an appeal for any grade with their subject teacher. If a student is dissatisfied with that initial process, they must pursue further appeal through the Faculty Executive Teacher for that subject.

Executive Teacher

Gary Rolfe

22/07/2025