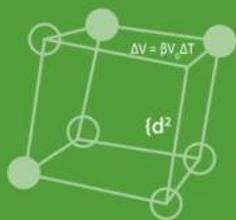


AUSTRALIAN ACARA CONTENT OUTCOMES: SCIENCE F-10 VERSION 9.0

Level Outcome Description

Year 3 & 4

- identify sources of heat energy and examine how temperature changes when heat energy is transferred from one object to another AC9S3U03
- compare the observable properties of soils, rocks and minerals and investigate why they are important Earth resources AC9S3U02
- investigate the observable properties of solids and liquids and how adding or removing heat energy leads to a change of state AC9S3U04
- identify how forces can be exerted by one object on another and investigate the effect of frictional, gravitational and magnetic forces on the motion of objects AC9S4U03
- examine the properties of natural and made materials including fibres, metals, glass and plastics and consider how these properties influence their use AC9S4U04
- examine how people use data to develop scientific explanations AC9S3H01, AC9S4H01
- consider how people use scientific explanations to meet a need or solve a problem AC9S3H02, AC9S4H02
- pose questions to explore observed patterns and relationships and make predictions based on observations AC9S3I01, AC9S4I01
- compare findings with those of others, consider if investigations were fair, identify questions for further investigation and draw conclusions AC9S3I05, AC9S4I05



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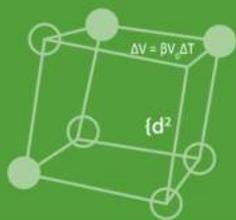


AUSTRALIAN ACARA CONTENT OUTCOMES: SCIENCE F-10 VERSION 9.0

Level Outcome Description

Year 5 & 6

- describe how weathering, erosion, transportation and deposition cause slow or rapid change to Earth's surface AC9S5U02
- explain observable properties of solids, liquids and gases by modelling the motion and arrangement of particles AC9S5U04
- compare reversible changes, including dissolving and changes of state, and irreversible changes, including cooking and rusting that produce new substances AC9S6U04
- investigate how scientific knowledge is used by individuals and communities to identify problems, consider responses and make decisions AC9S5H02, AC9S6H02
- pose investigable questions to identify patterns and test relationships and make reasoned predictions AC9S5I01, AC9S6I01
- 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 AC9S5I05, AC9S6I05



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AUSTRALIAN ACARA CONTENT OUTCOMES: SCIENCE F-10 VERSION 9.0

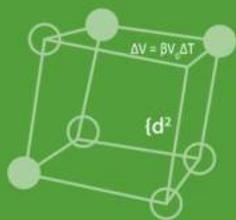
Level Outcome Description

Year 7 & 8

- investigate tectonic activity including the formation of geological features at divergent, convergent and transform plate boundaries and describe the scientific evidence for the theory of plate tectonics AC9S8U03
- describe the key processes of the rock cycle, including the timescales over which they occur, and examine how the properties of sedimentary, igneous and metamorphic rocks reflect their formation and influence their use AC9S8U04
- explain how new evidence or different perspectives can lead to changes in scientific knowledge AC9S7H01 AC9S8H01
- examine how proposed scientific responses to contemporary issues may impact on society and explore ethical, environmental, social and economic considerations AC9S7H03 AC9S8H03
- develop investigable questions, reasoned predictions and hypotheses to explore scientific models, identify patterns and test relationships AC9S7I01 AC9S8I01
- analyse data and information to describe patterns, trends and relationships and identify anomalies AC9S7I05 AC9S8I05
- 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 AC9S7I07 AC9S8I07

Year 9 & 10

- explain how scientific knowledge is validated and refined, including the role of publication and peer review AC9S9H01 AC9S10H01
- Investigate how advances in technologies enable advances in science, and how science has contributed to developments in technologies and engineering AC9S9H02 AC9S10H02
- develop investigable questions, reasoned predictions and relationships and develop explanatory models AC9S9I01 AC9S10I01



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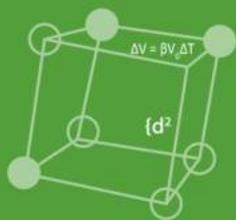


AUSTRALIAN ACARA CONTENT OUTCOMES: SCIENCE F-10 VERSION 9.0

Level Outcome Description

Year 9 & 10

- explain how scientific knowledge is validated and refined, including the role of publication and peer review AC9S9H01 AC9S10H01
- Investigate how advances in technologies enable advances in science, and how science has contributed to developments in technologies and engineering AC9S9H02 AC9S10H02
- develop investigable questions, reasoned predictions and hypotheses to test relationships and develop explanatory models AC9S9I01 AC9S10I01
- analyse and connect a variety of data and information to identify and explain patterns, trends, relationships and anomalies AC9S9I05 AC9S10I05
- construct arguments based on analysis of a variety of evidence to support conclusions or evaluate claims, and consider any ethical issues and cultural protocols associated with accessing, using or citing secondary data or information AC9S9I07 AC9S10I07



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NSW SCIENCE & TECHNOLOGY SYLLABUS CONTENT (CURRENT K-6)

Code Outcome Description

ST1-10ES-S

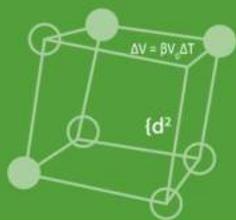
recognises observable changes occurring in the sky and on the land and identifies Earth's resources

ST2-10ES-S

investigates regular changes caused by interactions between the Earth and the Sun, and changes to the Earth's surface

ST3-10ES-S

explains regular events in the solar system and geological events on the Earth's surface



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NSW SCIENCE AND TECHNOLOGY K-6 SYLLABUS (IMPLEMENTATION FROM 2027)

Code Outcome Description

ST2-SCI-01

uses information to investigate the solar system and the effects of energy on living, physical and geological systems

- Research and describe the changes to the landscape caused by earthquakes and volcanoes
- Research, describe and model the internal structure of Earth
- Describe and model how forces produced by moving water cause erosion

ST2-PQU-01

poses questions to create fair tests that investigate the effects of energy on living things and physical systems

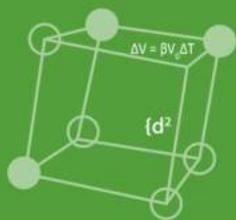
ST3-SCI-01

uses evidence to explain how scientific knowledge can be used to develop sustainable practices

- Research the effects of natural events on the atmosphere
- Explain the effects of natural events and human activities on climate

ST3-PQU-01

poses questions to identify variables and conducts fair tests to gather data



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NSW SCIENCE 7–10 SYLLABUS (IMPLEMENTATION FROM 2026)

Stage Outcome Description & Content

Stage 4

A student:

identifies questions and makes predictions to guide scientific investigations SC4-WS-02

- Identify questions and problems that can be investigated scientifically
- Make predictions based on scientific knowledge and observations

describes the effects of forces in everyday contexts SC4-FOR-01

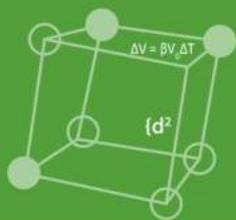
- Conduct a practical investigation on the effects of a range of direct and indirect forces

explains how energy causes geological and chemical change SC4-CHG-01

- Describe the processes associated with the movement of tectonic plates
- Identify the evidence used to develop the theory of plate tectonics
- Identify that earthquakes and volcanoes are natural phenomena that provide evidence of geological changes in the Earth's crust and surface
- Conduct investigations or simulations to compare the observable properties of different types of minerals and rocks
- Use the rock cycle to explain the geological processes that lead to the formation and transformation of different types of rock
- Model the formation of fossils and explain how fossils show evidence that different organisms existed at different times in the past
- Recognise that the law of superposition allows scientists to determine the relative age of rock strata

Stage 5 asks questions or makes predictions using observations SCLS-WS-02

- Ask questions about familiar objects and events based on observations
- Make predictions based on observations



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VIC CURRICULUM F-10 VERSION 2.0

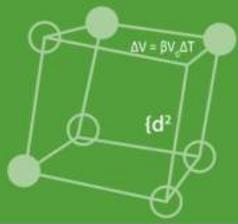
Level Outcome Description

Levels 3 & 4

- the properties of natural and made materials, including fibres, metals, glass and plastics, influence their use and re-use. VC2S4U05
- forces, including frictional, gravitational, electrostatic and magnetic, can be exerted by one object on another through direct contact or from a distance and affect the motion (speed and direction) of objects. VC2S4U10
- weather events and climate have impacts on the land, air, water and living things; human activity can affect climate. VC2S4U08
- scientific investigations to answer questions or test predictions can be planned and conducted using provided scaffolds, including identifying the attributes of fair tests, and considering the safe use of materials and equipment. VC2S4I02

Levels 5 & 6

- geological processes including weathering, erosion, transportation and deposition can cause slow or rapid changes to Earth's surface. VC2S6U05
- sudden geological changes or extreme weather conditions can affect Earth's surface and atmosphere; the impacts of natural hazards, including earthquakes, volcanic eruptions, wildfires and floods, can be reduced by human actions and technological innovations. VC2S6U06
- repeatable scientific investigations to answer questions can be planned and conducted, including, as appropriate, deciding the variables to be changed, measured and controlled in fair tests, considering potential risks, planning for the safe and ethical use of equipment and materials, and obtaining permissions for investigations conducted on Country and Place or in protected areas. VC2S6I02



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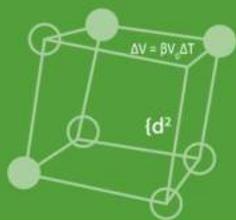
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VIC CURRICULUM F-10 VERSION 2.0

Levels 7 & 8

- Earth is a dynamic planet as demonstrated by tectonic activity, including the formation of geological features at divergent, convergent and transform plate boundaries; the theory of plate tectonics is supported by scientific evidence. VC2S8U10
- key processes of the rock cycle occur over different timescales; the properties of sedimentary, igneous and metamorphic rocks not only reflect their formation but also impact their usefulness and determine the methods used when mined. VC2S8U11
- investigable questions, reasoned predictions and hypotheses can be developed in guiding investigations to identify patterns, test relationships and analyse and evaluate scientific models. VC2S8I01
- scientific methods, conclusions and claims can be analysed to identify assumptions, possible sources of error, conflicting evidence and unanswered questions. VC2S8I06
- evidence-based arguments can be constructed to support conclusions or evaluate claims, including consideration of ethical issues and protocols associated with using or citing secondary data or information. VC2S8I07



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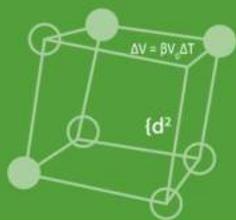
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VIC CURRICULUM F-10 VERSION 2.0

Levels 9 & 10

- investigable questions, reasoned predictions and hypotheses can be used in guiding investigations to test and develop explanatory models and relationships. VC2S10I01
- the validity and reproducibility of investigation methods and the validity of conclusions and claims can be evaluated, including by identifying assumptions, conflicting evidence, biases that may influence observations and conclusions, sources of error and areas of uncertainty. VC2S10I06
- arguments based on a variety of evidence can be constructed to support conclusions or evaluate claims, including consideration of any ethical issues and cultural protocols associated with accessing, using or citing secondary data or information. VC2S10I07



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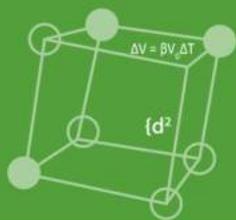
INTERNATIONAL BACCALAUREATE (IB) SCIENCE FRAMEWORK

Programme Framework Links & Objective Descriptions

Primary Years Programme (PYP)

Transdisciplinary Themes & Scientific Strands:

- How the world works: Inquiry into the natural world and its laws; the interaction between the physical and biological worlds; how humans use their understanding of scientific principles.
- Earth and Space (Strand): Inquiry into the planet Earth and its position in the universe; history of the Earth; changes to the Earth and its atmosphere.
- Forces and Energy (Strand): Inquiry into the origins, storage, and transfer of energy; the interaction of forces and motion.
- Inquiry Skills: Observe, identify, and describe; formulate questions; make predictions; conduct fair tests; record and analyze data; evaluate and reflect on findings.



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INTERNATIONAL BACCALAUREATE (IB) SCIENCE FRAMEWORK

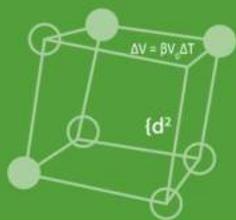
Programme Framework Links & Objective Descriptions

Primary Years Programme (PYP)

Middle Years Programme (MYP)

Key Concepts & Assessment Objectives:

- Key Concepts: Change (geological transformation), Relationships (force and motion), Systems (tectonic plates/rock cycle).
- Global Contexts: Orientation in space and time; Scientific and technical innovation.
- Objective A: Knowing and understanding – Explain scientific knowledge; apply understanding to solve problems in familiar and unfamiliar situations.
- Objective B: Inquiring and designing – Explain a problem or question to be tested by a scientific investigation; formulate a testable hypothesis and explain it using scientific reasoning; design scientific investigations.
- Objective C: Processing and evaluating – Present collected and transformed data; interpret data and explain results using scientific reasoning; evaluate the validity of a hypothesis and methods.
- Objective D: Reflecting on the impacts of science – Explain the ways in which science is applied to address a specific issue; discuss and evaluate the implications of using science (ethical, social, environmental).



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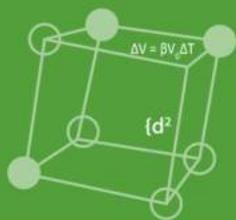


CAMBRIDGE INTERNATIONAL SCIENCE STANDARDS

Stage/Level Exact Standard Descriptions

Cambridge Primary (Stages 3–6)

- Identify the different types of rock and their properties. 3Es.01
- Describe how fossils are formed when organisms are trapped in sedimentary rock. 4Es.02
- Know that the Earth is surrounded by a layer of air called the atmosphere. 5Es.01
- Describe the sub-division of matter into particles (using the particle model) and explain how this can be used to describe the properties of solids, liquids and gases. 6Ps.01
- Describe how gravity on Earth pulls objects, that are not supported, towards the centre of the Earth. 6Pf.01
- Plan and carry out fair tests, identifying variables to be changed, measured and kept the same. 6TWsp.01



SCIENCE AT HOME

OUR PLANET EARTH



CAMBRIDGE INTERNATIONAL SCIENCE STANDARDS

Stage/Level Exact Standard Descriptions (Word-for-Word)

Cambridge Lower Secondary (Stages 7–9)

- Describe the model of plate tectonics, in which a series of plates are move on the Earth's surface by convection currents in the mantle. 7Es.01
- Explain how evidence from the distribution of fossils and rocks, and the shapes of continents, supports the theory of plate tectonics. 7Es.02
- Use the particle model to explain the properties of solids, liquids and gases, and to describe the changes of state. 7Ps.01
- Explain how the key processes of the rock cycle (weathering, erosion, transportation, deposition, metamorphism, melting, crystallisation and uplift) lead to the formation of different types of rocks. 8Es.01
- Describe how an object's motion can be changed by the action of unbalanced forces. 7Pf.03
- Explain how new evidence or different perspectives can lead to changes in scientific knowledge and understanding. 7TW/sp.01