

Alignment with the Australian Curriculum: Science

This *Staying alive* unit embeds all three strands of the Australian Curriculum: Science. The table below lists sub-strands and their content for Foundation Year. This unit is designed to be taught in conjunction with other Foundation Year units to cover the full range of the Australian Curriculum: Science content for Foundation Year.

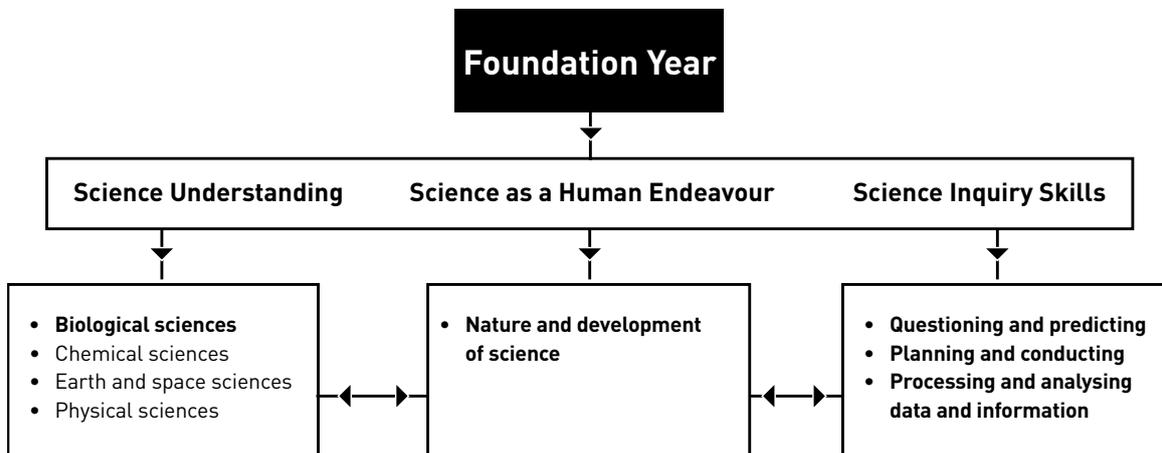
For ease of assessment the table below outlines the sub-strands and their content aligned to lessons.

Strand	Sub-strand	Code	Foundation Year content descriptions	Lessons
Science Understanding	Biological sciences	ACSSU002	Living things have basic needs, including food and water	1–7
Science as a Human Endeavour	Nature and development of science	ACSHE013	Science involves exploring and observing the world using the senses	1–7
Science Inquiry Skills	Questioning and predicting	AC SIS014	Respond to questions about familiar objects and events	1–7
	Planning and conducting	AC SIS011	Explore and make observations by using the senses	1–7
	Processing and analysing data and information	AC SIS233	Engage in discussions about observations and use methods such as drawing to represent ideas	1–7
	Communicating	AC SIS012	Share observations and ideas	1–7

 All the material in the first four columns of this table is sourced from the Australian Curriculum.

Interrelationship of the Science strands

The interrelationship between the three strands—Science Understanding, Science as a Human Endeavour and Science Inquiry Skills—and their sub-strands is shown below. Sub-strands covered in this unit are in bold.



 All the terms in this diagram are sourced from the Australian Curriculum.

Relationship to overarching ideas

In the Australian Curriculum: Science, six overarching ideas support the coherence and developmental sequence of science knowledge within and across year levels. In *Staying alive* these overarching ideas are represented by:

Overarching idea	Incorporation in <i>Staying alive</i>
Patterns, order and organisation	Students compare similarities and differences in the survival needs of humans and the class pet. They identify patterns, such as water consumption and how breathing increases after exercise. They sort objects according to whether or not they are needed for survival.
Form and function	Students explore how their senses are used to gather information from their environment and are used to keep them safe. They compare what happens to their bodies before and after exercise, and consider the need for food, water, air and shelter for their bodies to survive.
Stability and change	Students discuss how their needs can change over the course of a day. For example, their hunger increases when they have not eaten recently. However, they identify that without an overall constant supply of food, air, water and sleep animals can't survive.
Scale and measurement	Students compare the needs of different people and the class pet using informal measurements to record their water consumption. They compare observations to discuss the relative needs of animals of different sizes.
Matter and energy	Students investigate the consumption of food by animals in order to survive. They describe and measure this consumption (intake of energy) and how it is needed for growth, change and survival.
Systems	Through comparing what different animals eat, students are introduced to some simple relationships between living things in ecosystems. They also identify inputs necessary for the maintenance of the body systems of animals.

Curriculum focus

The Australian Curriculum: Science is described by year level, but provides advice across four year groupings on the nature of learners. Each year grouping has a relevant curriculum focus.

Curriculum focus Years F–2	Incorporation in <i>Staying alive</i>
Awareness of self and the local world	Students use their senses to gather information about their world. They respond to and ask questions about what they need to survive and compare their needs with those of the class pet.

Achievement standards

The achievement standards of the Australian Curriculum: Science indicate the quality of learning that students typically demonstrate by a particular point in their schooling, for example, at the end of a year level. These standards will be reviewed regularly by ACARA and are available on the ACARA website.

By the end of this unit, teachers will be able to make evidence-based judgments on whether the students are achieving below, at or above the Australian Curriculum: Science Foundation Year achievement standard. Rubrics to help teachers make these judgments will be available on the website (www.science.org.au/primaryconnections).

General capabilities

The skills, behaviours and attributes that students need to succeed in life and work in the 21st century have been identified in the Australian Curriculum as general capabilities.

There are seven general capabilities and they are embedded throughout the curriculum.

For further information see: www.australiancurriculum.edu.au

For examples of our unit-specific general capabilities information see the next page.

Staying alive—Australian Curriculum general capabilities

General capabilities	Australian Curriculum description	Staying alive examples
Literacy	Literacy knowledge specific to the study of science develops along with scientific understanding and skills. Primary Connections learning activities explicitly introduce literacy focuses and provide students with the opportunity to use them as they think about, reason and represent their understanding of science.	In <i>Staying alive</i> the literacy focuses are: <ul style="list-style-type: none"> • tables • science journals • ideas maps • word walls • T-charts • storyboards • sorting diagrams • graphs.
 Numeracy	Elements of numeracy are particularly evident in Science Inquiry Skills. These include practical measurement and the collection, representation and interpretation of data.	Students: <ul style="list-style-type: none"> • collect data in tables • represent and communicate data in tables and simple picture graphs • interpret data in graphs and tables.
Information and communication technology (ICT) competence	ICT competence is particularly evident in Science Inquiry Skills. Students use digital technologies to investigate, create, communicate and share ideas and results.	Students are given optional opportunities to: <ul style="list-style-type: none"> • use digital devices to record their explorations • use interactive resource technology to view, record and analyse information.
 Critical and creative thinking	Students develop critical and creative thinking as they speculate and solve problems through investigations, make evidence-based decisions, and analyse and evaluate information sources to draw conclusions. They develop creative questions and suggest novel solutions.	Students: <ul style="list-style-type: none"> • formulate, pose and respond to questions for inquiry • consider different ways of thinking about what their bodies require • make evidence-based decisions about their basic needs for survival.
Ethical behaviour	Students develop ethical behaviour as they explore principles and guidelines in gathering evidence, and consider the implications of their investigations on others and the environment.	Students: <ul style="list-style-type: none"> • ask questions respecting each other's point of view • develop and use a 'Code for caring' when caring for the class pet.
 Personal and social competence	Students develop personal and social competence as they work effectively in teams, develop collaborative methods of inquiry, work safely, and use their scientific knowledge to make informed choices.	Students: <ul style="list-style-type: none"> • work collaboratively in teams • participate in discussions • follow directions to work safely • follow rules when playing physical games.
 Intercultural understanding	Intercultural understanding is particularly evident in Science as a Human Endeavour. Students learn about the influence of people from a variety of cultures on the development of scientific understanding.	<ul style="list-style-type: none"> • 'Cultural perspectives' opportunities are highlighted where relevant • Important contributions made to science by people from a range of cultures are highlighted where relevant.

 All the material in the first two columns of this table is sourced from the Australian Curriculum.

Cross-curriculum priorities

There are three cross-curriculum priorities identified by the Australian Curriculum:

- Aboriginal and Torres Strait Islander histories and cultures
- Asia and Australia's engagement with Asia
- Sustainability.

For further information see: www.australiancurriculum.edu.au



Aboriginal and Torres Strait Islander histories and cultures

PrimaryConnections has developed an Indigenous perspective framework that has informed practical reflections on intercultural understanding. It can be accessed at:

www.science.org.au/primaryconnections

Staying alive focuses on the Western science way of making evidence-based claims about things required for survival.

Aboriginal and Torres Strait Islander Peoples might have other explanations about the needs for survival, and they might prioritise their relative importance in different ways depending on their culture.

PrimaryConnections recommends working with Aboriginal and Torres Strait Islander community members to access local and relevant cultural perspectives. Protocols for engaging with Aboriginal and Torres Strait Islander community members are provided in state and territory education guidelines. Links to these are provided on the PrimaryConnections website.

Sustainability

In the *Staying alive* unit, students investigate how animals rely on their environment to survive. They are also introduced to the concept that all living things have basic requirements that need to be met, such as water and space. These concepts can help students to understand the idea of competition for scarce resources and how impacts on the environment might affect the survival of living things. This enables students to develop the knowledge, skills and values for making decisions about individual and community actions that contribute to sustainable patterns of use of the Earth's natural resources.

Alignment with the Australian Curriculum: English and Mathematics

Strand	Sub-strand	Code	Foundation Year content descriptions	Lessons
English– Language	Language for interaction	ACELA1429	Understand that language can be used to explore ways of expressing needs, likes and dislikes.	1–7
	Expressing and developing ideas	ACELA1434	Recognise that texts are made up of words and groups of words that make meaning	1–7
		ACELA1437	Understand the use of vocabulary in familiar contexts related to everyday experiences, personal interests and topics taught at school	1–7
English– Literacy	Interacting with others	ACELY1646	Listen to and respond orally to texts and to the communication of others in informal and structured classroom situations	1–7
		ACELY1784	Use interaction skills including listening while others speak, using appropriate voice levels, articulation and body language, gestures and eye contact	1–7
		ACELY1647	Deliver short oral presentations to peers	1
	Creating texts	ACELY1651	Create short texts to explore, record and report ideas and events using familiar words and beginning writing knowledge	1, 3, 7
Mathematics– Number and Algebra	Number and place value	ACMNA289	Compare, order and make correspondences between collections, initially to 20, and explain reasoning	6
		ACMNA004	Represent practical situations to model addition and sharing	6
	Patterns and algebra	ACMNA005	Sort and classify familiar objects and explain the basis for these classifications. Copy, continue and create patterns with objects and drawings	3, 5, 6
Mathematics– Measurement and Geometry	Using units of measurement	ACMMG006	Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language	6
		ACMMG007	Compare and order the duration of events using the everyday language of time	3

 All the material in the first four columns of this table is sourced from the Australian Curriculum.

Other links are highlighted at the end of lessons where possible. These links will be revised and updated on the website (www.science.org.au/primaryconnections).