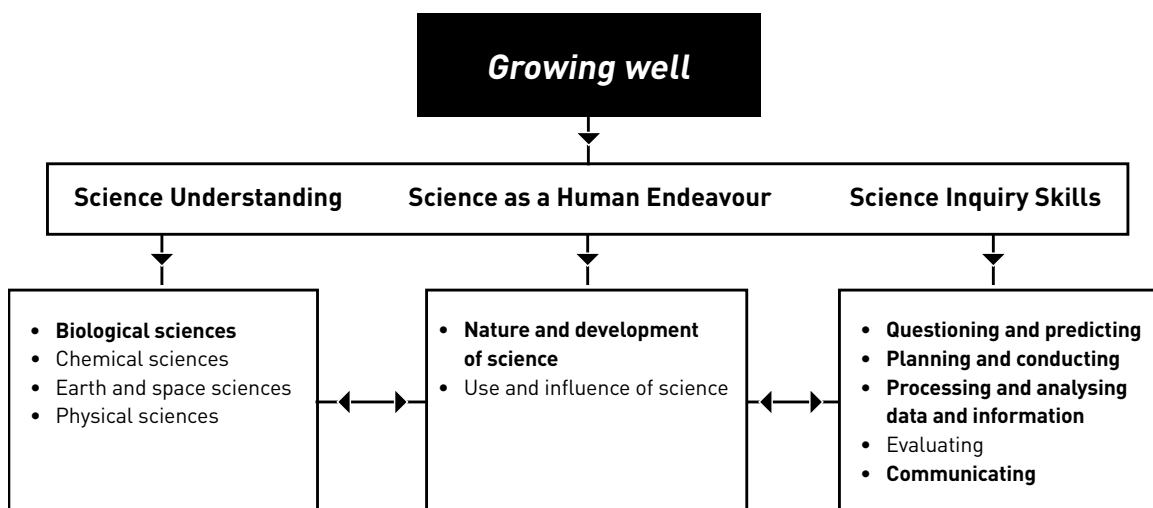


# Growing well—Alignment with the Australian Curriculum

*Growing well* is written to align to the Foundation Year level of the Australian Curriculum Science. The interrelationship between the three strands—Science Understanding, Science as a Human Endeavour and Science Inquiry Skills—and their sub-strands at this year level is shown below. Sub-strands covered in this unit are in bold.



**AC** All the terms in this diagram are sourced from the Australian Curriculum (aside from the title).

## 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>Growing well</i>
<b>Awareness of self and the local world</b>	Students gather information about the basic needs of plants by observing how they grow under different conditions. Students compare and identify the similarities between plant and animal needs.

## Foundation Year Achievement Standard

The Australian Curriculum: Science Foundation Year achievement standard indicates the quality of learning that students should demonstrate by the end of Foundation Year.

**By the end of the Foundation Year, students describe the properties and behaviour of familiar objects. They suggest how the environment affects them and other living things.**

**Students share and reflect on observations, and ask and respond to questions about familiar objects and events.**

The sections relevant to *Growing well* are bolded above. By the end of the unit, teachers will be able to make evidence-based judgements on whether the students are achieving below, at or above the achievement standard for the sections bolded above. To assist teachers in making these judgements, assessment rubrics and work samples are provided in Appendix 7.

## Key ideas

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

Key idea	Incorporation in <i>Growing well</i>
<b>Patterns, order and organisation</b>	Students observe plant growth under different conditions in order to identify patterns in their collected data. They also explore the similarities and differences between two different groups of living things – plants and animals.
<b>Form and function</b>	Students identify parts of plants and the function they play in the plant's survival. They begin to develop an understanding that their form helps them to fulfil their function, for example, roots form a network of very small tubes through the soils to maximise their surface area for absorbing water and nutrients.
<b>Stability and change</b>	Students observe how the needs of plants change depending on the conditions they are in. They also identify needs that are stable, for example, a plant will always need water.
<b>Scale and measurement</b>	Students measure and record growth of plants over time. They organise their observations using a timeline.
<b>Matter and energy</b>	Students directly observe changes to seedling growth (matter) determined by available light energy.
<b>Systems</b>	Students observe and describe how conditions of the environment (ecosystem) affect the features, behaviour and survival of plants and animals. They also identify that animals rely on external sources of food, one of the key relationships between living things in an ecosystem.

## Growing well—Australian Curriculum: Science

*Growing well* embeds all three strands of the Australian Curriculum: Science. For ease of reference, the table below outlines the sub-strands covered in *Growing well*, the content descriptions for Foundation Year and the aligned lessons.

Strand	Sub-strand	Code	Foundation Year content descriptions	Lessons
<b>Science Understanding</b>	<b>Biological sciences</b>	ACSSU002	Living things have basic needs, including food and water	1–7
<b>Science as a Human Endeavour</b>	<b>Nature and development of science</b>	ACSHE013	Science involves observing, asking questions about, and describing changes in, objects and events	1–7
<b>Science Inquiry Skills</b>	<b>Questioning and predicting</b>	ACSIS014	Pose and respond to questions about familiar objects and events	1–7
	<b>Planning and conducting</b>	ACSIS011	Participate in guided investigations and make observations using the senses	1–6
	<b>Processing and analysing data and information</b>	ACSIS233	Engage in discussions about observations and represent ideas	1–7
	<b>Communicating</b>	ACSIS012	Share observations and ideas	1–7





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


## 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](http://www.australiancurriculum.edu.au)

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

## Growing well—Australian Curriculum general capabilities

General capabilities	Australian Curriculum description	Growing well examples
<b>Literacy</b>	Students develop a broader literacy capability as they explore and investigate their world. By learning the literacy of science, students understand that language varies according to context and they increase their ability to use language flexibly.	In <i>Growing well</i> the literacy focuses are: <ul style="list-style-type: none"> <li>• science journals</li> <li>• drawings</li> <li>• word walls</li> <li>• tables</li> <li>• annotated drawings</li> <li>• graphs.</li> </ul>
 <b>Numeracy</b>	Many elements of numeracy are evident in the Science Inquiry Skills. These include practical measurement and the collection, representation and interpretation of data from investigations.	Students: <ul style="list-style-type: none"> <li>• use informal measurement to monitor plant growth</li> <li>• represent data from investigations in a graph.</li> </ul>
<b>Information and Communication Technology (ICT) Capability</b>	Students develop ICT capability when they research science concepts and applications, investigate scientific phenomena and communicate their scientific understandings.	Students are given optional opportunities to: <ul style="list-style-type: none"> <li>• use interactive resource technology to view resources.</li> </ul>
 <b>Critical and Creative Thinking</b>	Students develop capability in critical and creative thinking as they learn to generate and evaluate knowledge, ideas and possibilities, and use them when seeking new pathways or solutions. Creative thinking enables the development of ideas that are new to the individual, and this is intrinsic to the development of scientific understanding.	Students: <ul style="list-style-type: none"> <li>• make predictions about growth</li> <li>• solve problems through investigation</li> <li>• develop evidence-based claims</li> <li>• analyse and evaluate data.</li> </ul>
 <b>Personal and Social Capability</b>	Students develop personal and social capability as they engage in science inquiry, learn how scientific knowledge informs and is applied in their daily lives, and explore how scientific debate provides a means of contributing to their communities.	Students: <ul style="list-style-type: none"> <li>• establish positive relationships with other students, educators and guest speakers</li> <li>• make responsible choices in investigations</li> <li>• work effectively in teams</li> <li>• expand their capacity to question, solve problems, and display curiosity.</li> </ul>
<b>Ethical understanding</b>	Students develop the capacity to form and make ethical judgements in relation to experimental science, codes of practice, and the use of scientific information and science applications.	Students: <ul style="list-style-type: none"> <li>• respect each other's' ideas and opinions</li> <li>• recognise basic needs of plants and animals.</li> </ul>
 <b>Intercultural understanding</b>	Students learn to appreciate the contribution that diverse cultural perspectives have made to the development, breadth and diversity of science knowledge and applications.	<ul style="list-style-type: none"> <li>• 'Cultural perspectives' opportunities are highlighted where relevant.</li> <li>• Important contributions made to science by people from a range of cultures are highlighted where relevant.</li> </ul>

 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.

Two of these are embedded within *Growing well*, as described below.



### Aboriginal and Torres Strait Islander histories and cultures

The Primary**Connections** Indigenous perspectives framework supports teachers' implementation of Aboriginal and Torres Strait Islander histories and cultures in science.

The framework can be accessed at: [www.primaryconnections.org.au](http://www.primaryconnections.org.au)

*Growing well* focuses on the Western science way of making evidence-based claims about the basic needs of plants and animals. Students make a hypothesis about the basic needs of a plant, and test this using a controlled variable test. They discuss what claims their evidence supports and whether they can generalise the claims to all plants. They also research the needs of animals to contrast and compare.

Aboriginal and Torres Strait Islander Peoples might have other explanations about the needs of other living things. For example, they may see humans, animals and the land within a vast network of relationships that convey a morality and way of dealing with each other.


Primary**Connections** 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 Primary**Connections** website.

### Sustainability

The *Growing well* unit provides opportunities for students to develop an understanding of how animal life, including their own, is dependant on plant life. Through their investigations, students develop an understanding of what living things, such as plants and animals, need in order to survive. This provides information on how to encourage the sustainable use of natural resources.

**Growing well—Australian Curriculum: English**

Strand	Sub-strand	Code	Foundation Year content descriptions	Lessons
<b>Language</b>	<b>Language for interaction</b>	ACELA1429	Understand that language can be used to explore ways of expressing needs, likes and dislikes.	1–7
	<b>Expressing and developing ideas</b>	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
<b>Literacy</b>	<b>Interacting with others</b>	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	6
	<b>Creating texts</b>	ACELY1651	Create short texts to explore, record and report ideas and events using familiar words and beginning writing knowledge	1, 3, 7

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

## Growing well—Australian Curriculum: Mathematics

Strand	Sub-strand	Code	Foundation Year content descriptions	Lessons
<b>Number and Algebra</b>	<b>Number and place value</b>	ACMNA289	Compare, order and make correspondences between collections, initially to 20, and explain reasoning	5
		ACMNA004	Represent practical situations to model addition and sharing	5
	<b>Patterns and algebra</b>	ACMNA005	Sort and classify familiar objects and explain the basis for these classifications. Copy, continue and create patterns with objects and drawings	5
<b>Measurement and Geometry</b>	<b>Using units of measurement</b>	ACMMG006	Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language	5
		ACMMG007	Compare and order duration of events using the everyday language of time	5

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