

## Changes all around—Alignment with the Australian Curriculum

*Changes all around* is written to align to the Year 1 level of the Australian Curriculum: Science. The Science Understanding, Science Inquiry Skills, and Science as a Human Endeavour strands are interrelated and embedded throughout the unit (see page xi for further details). This unit focuses on the Earth and space sciences sub-strand.

Year 1 Science Understanding for the Earth and Space Sciences:	Observable changes occur in the sky and landscape (AUSSSU019)
Guiding questions that inform the inquiry in <i>Changes all around</i> :	<ul style="list-style-type: none"> <li>• What changes happen naturally?</li> <li>• What changes are made by humans?</li> <li>• How often do changes occur? How long do they take?</li> <li>• What do changes tell us about what we need to do?</li> <li>• Why do we make changes?</li> </ul>

 All the material in the first row of this table is sourced from the Australian Curriculum v8.3.

### Year 1 Achievement Standard

The Australian Curriculum: Science Year 1 achievement standard indicates the quality of learning that students should demonstrate by the end of Year 1.

**By the end of Year 1, students describe objects and events that they encounter in their everyday lives**, and the effects of interacting with materials and objects. **They describe changes in their local environment** and how different places meet the needs of living things.

**Students respond to questions, make predictions, and participate in guided investigations of everyday phenomena. They follow instructions to record and sort their observations and share them with others.**

The sections relevant to *Changes all around* 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.

## Changes all around—Australian Curriculum: Key ideas

In the Australian Curriculum: Science, there are six key ideas that represent key aspects of a scientific view of the world and bridge knowledge and understanding across the disciplines of science. The below table explains how these are represented in *Changes all around*.

Key idea	Representation in <i>Changes all around</i>
<b>Patterns, order and organisation</b>	Students identify changes in their local environment that occur over different timescales. They recognise that some changes occur at regular intervals, such as daily or seasonally. They classify changes as made, or not made, by humans.
<b>Form and function</b>	Students observe the functions of living and non-living objects in their environment and how they bring about change to their form. Students make simple inferences about how the change in an object's form might affect its function.
<b>Stability and change</b>	Students identify features of their environment that remain relatively stable and those that change. They discuss how changes can occur at different timescales, and that even seemingly stable features, for example, hills, gradually change.
<b>Scale and measurement</b>	Students use their everyday experience to quantify change associated with change events. They use relative language to describe and compare rates of change, such as 'every night' or 'faster'. They describe duration of change in terms of hours, days, weeks, months and years.
<b>Matter and energy</b>	Students observe changes to objects and make simple inferences as to the phenomena that brought about the changes. They observe the impact of walking on grass and discuss materials that might be less affected by those forces.
<b>Systems</b>	Students identify the observable components of a clearly identified 'whole', such as features of plants or structures in their local environments.

### Incorporating the key ideas

According to the Australian Curriculum: Science 'from Foundation to Year 2, students learn that observations can be organised to reveal patterns, and that these patterns can be used to make predictions about phenomena'.

In Year 1, students infer simple cause-and-effect relationships from their observations and experiences, and begin to link events and phenomena with observable effects and to ask questions. They observe changes that can be large or small and happen quickly or slowly. Students explore the properties of familiar objects and phenomena, identifying similarities and differences. Students begin to value counting as a means of comparing observations, and are introduced to ways of organising their observations.

In *Changes all around* students observe changes in their local environment. They observe changes that can be large or small, such as the building of a school or of a simple spider web, and changes that happen quickly or slowly, such as the movement of clouds or the growth of a tree. They classify changes as natural, built by humans (constructed), made by humans looking after something (managed) or other. Students investigate the impact of people walking on grass and infer simple cause-and-effect relationships between the frequency of stomps and the formation of paths.

Students compare features of objects before and after a change and record their observations in drawings or photographs. They describe duration of changes in terms of

hours, days, weeks or years. They observe patterns and discuss how they can be used to make predictions about the occurrence of future changes. They organise observations in provided tables and create simple time-lapses.

## **Changes all around—Australian Curriculum: Science**

*Changes all around* embeds all three strands of the Australian Curriculum: Science. For ease of reference, the table below outlines the sub-strands covered in *Changes all around*, the content descriptions for Year 1 and the aligned lessons.

Strand	Sub-strand	Code	Year 1 content descriptions	Lessons
<b>Science Understanding</b>	Earth and space sciences	ACSSU019	Observable changes occur in the sky and landscape	1–7
<b>Science as a Human Endeavour</b>	Nature and development of science	ACSHE021	Science involves observing, asking questions about, and describing changes in, objects and events	1–7
	Use and influence of science	ACSHE022	People use science in their daily lives, including when caring for their environment and living things	1–7
<b>Science Inquiry Skills</b>	Questioning and predicting	AC SIS024	Pose and respond to questions, and make predictions about familiar objects and events	1–4, 6
	Planning and conducting	AC SIS025	Participate in guided investigations to explore and answer questions	2–4, 6
		AC SIS026	Use informal measurements to collect and record observations, using digital technologies as appropriate	4, 6
	Processing and analysing data and information	AC SIS027	Use a range of methods to sort information, including drawings and provided tables and through discussion, compare observations with predictions	1–7
	Evaluating	AC SIS213	Compare observations with those of others	2–4, 6
	Communicating	AC SIS029	Represent and communicate observations and ideas in a variety of ways	1–7

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## **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.

**Changes all around—Australian Curriculum: General capabilities**

General capabilities	Australian Curriculum description	<i>Changes all around</i> examples
<b>Literacy</b>	<p>Students develop a broader literacy capability as they explore and investigate their world.</p> <p>By learning the literacy of science, students understand that language varies according to context and they increase their ability to use language flexibly.</p>	<p>In <i>Changes all around</i> the literacy focuses are:</p> <ul style="list-style-type: none"> <li>• science journals</li> <li>• science chat-boards</li> <li>• word walls</li> <li>• factual texts</li> <li>• drawings</li> <li>• tables</li> <li>• annotated drawings.</li> </ul>
<b>Numeracy</b> 	<p>Many elements of numeracy are particularly evident in Science Inquiry Skills. These include practical measurement and the collection, representation and interpretation of data from investigations.</p>	<p>Students:</p> <ul style="list-style-type: none"> <li>• describe duration using months, weeks, days and hours.</li> </ul>
<b>Information and Communication Technology (ICT) capability</b>	<p>Students develop ICT capability when they research science concepts and applications, investigate scientific phenomena and communicate their scientific understandings. In particular, they use their ICT capability to access information; collect, analyse and represent data; model and interpret concepts and relationships; and communicate science ideas, processes and information.</p>	<p>Students are given opportunities to:</p> <ul style="list-style-type: none"> <li>• view and discuss relevant videos</li> <li>• use ICT to take photographs of a feature over time to create a simple time-lapse video on how it changes.</li> </ul>
<b>Critical and creative thinking</b> 	<p>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.</p>	<p>Students:</p> <ul style="list-style-type: none"> <li>• ask and answer questions, describe and explain their ideas, make suggestions and join in discussions</li> <li>• make predictions.</li> </ul>
<b>Personal and social capability</b> 	<p>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.</p>	<p>Students:</p> <ul style="list-style-type: none"> <li>• participate in discussions</li> <li>• work collaboratively in teams</li> <li>• listen to and follow instructions to safely complete investigations.</li> </ul>
<b>Ethical understanding</b>	<p>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.</p>	<p>Students:</p> <ul style="list-style-type: none"> <li>• ask questions of others, respecting each other's point of view.</li> </ul>
<b>Intercultural understanding</b>	<p>Students learn to appreciate the contribution that diverse cultural perspectives have made to the development, breadth and diversity of science knowledge and applications.</p>	<ul style="list-style-type: none"> <li>• Important contributions made to science by people from a range of cultures are highlighted where relevant.</li> </ul>

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## Changes all around—Australian Curriculum: English

Strand	Sub-strand	Code	Year 1 content descriptions	Lessons
Language	Text structure and organisation	ACELA1447	Understand that the purposes texts serve shape their structure in predictable ways	2
		ACELA1448	Understand patterns of repetition and contrast in simple texts	2
Literacy	Interacting with others	ACELY1656	Engage in conversations and discussions, using active listening behaviours, showing interest, and contributing ideas, information and questions	1–7
		ACELY1788	Use interaction skills including turn-taking, recognising the contributions of others, speaking clearly and using appropriate volume and pace	1–7
	Creating texts	ACELY1661	Create short imaginative and informative texts that show emerging use of appropriate text structure, sentence-level grammar, word choice, spelling, punctuation and appropriate multimodal elements, for example illustrations and diagrams	1–7

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## Changes all around—Australian Curriculum: Mathematics

Strand	Sub-strand	Code	Year 1 content descriptions	Lessons
Number and Algebra	Number and place value	ACMNA012	Develop confidence with number sequences to and from 100 by ones from any starting point. Skip count by twos, fives and tens starting from zero	6
Measurement and Geometry	Using units of measurement	ACMMG021	Describe duration using months, weeks, days and hours	1–3, 6

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## Changes all around—Australian Curriculum: Design and Technologies

Strand	Code	Foundation – Year 2 content descriptions	Lessons
<b>Knowledge and Understanding</b>	ACTDEK001	Identify how people design and produce familiar products, services and environments and consider sustainability to meet personal and local community needs	6
	ACTDEK004	Explore the characteristics and properties of materials and components that are used to produce designed solutions	4, 6

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## Changes all around—Australian Curriculum: Humanities and Social Sciences (HASS)

Strand	Sub-strand	Code	Year 1 content descriptions	Lessons
<b>Inquiry and skills</b>	<b>Questioning</b>	ACHASSI018	Pose questions about past and present objects, people, places and events	1, 7
	<b>Researching</b>	ACHASSI021	Sequence familiar objects and events	1–7
	<b>Analysing</b>	ACHASSI023	Compare objects from the past with those from the present and consider how places have changed over time	1
		ACHASSI024	Interpret data and information displayed in pictures and texts and on maps	1, 7
	<b>Evaluating and reflecting</b>	ACHASSI025	Draw simple conclusions based on discussions, observations and information displayed in pictures and texts and on maps	1, 7
	<b>Communicating</b>	ACHASSI027	Present narratives, information and findings in oral, graphic and written forms using simple terms to denote the passing of time and to describe direction and location	1–7
<b>Knowledge and Understanding</b>	<b>History</b>	ACHASSK029	How the present, past and future are signified by terms indicating time, as well as by dates and changes that may have personal significance, such as birthdays, celebrations and seasons	1, 2, 7
	<b>Geography</b>	ACHASSK031	The natural, managed and constructed features of places, their location, how they change and how they can be cared for	1–7

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## **Changes all around—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 *Changes all around*, 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)

*Changes all around* focuses on the Western science method of identifying changes in the landscape and sky, and making evidence-based claims about why the changes occurred, over what period of time and how features may change in the future.

Aboriginal and Torres Strait Islander Peoples might have other explanations for changes to the landscape and sky and the time frames in which these occur. Traditional stories sometimes include explanations of the formation of landscapes, for example, many groups have legends about the Rainbow Serpent, an immense serpent that created mountains and gorges. These stories can be specific to a particular people or communities or can be shared across different groups.

Several Indigenous groups identify different seasons. These seasons are usually characterised by natural changes in the environment that have significance to their people.

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 *Changes all around* unit provides opportunities for students to develop an understanding of how human activity can affect their environment. They identify not only changes that humans have built (constructed) but also identify natural changes that are caused due to human intervention, including managed changes, such as planting certain species and weeding others.

Students investigate how an individual choice, for example, taking a shortcut across grass, can have cumulative effects that create changes, for example, creating of paths. They discuss solutions to mitigate negative impacts, such as constructing durable paths or redirecting walkways to protect grassed areas. This provides students with opportunities to develop an understanding of some of the relationships between human activity and surrounding ecosystems. This connection assists students to develop 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.