


Alignment with the Australian Curriculum: Science

This *All mixed up* unit embeds all three strands of the Australian Curriculum: Science. The table below lists sub-strands and their content for Year 2. This unit is designed to be taught in conjunction with other Year 2 units to cover the full range of the Australian Curriculum: Science content for Year 2.

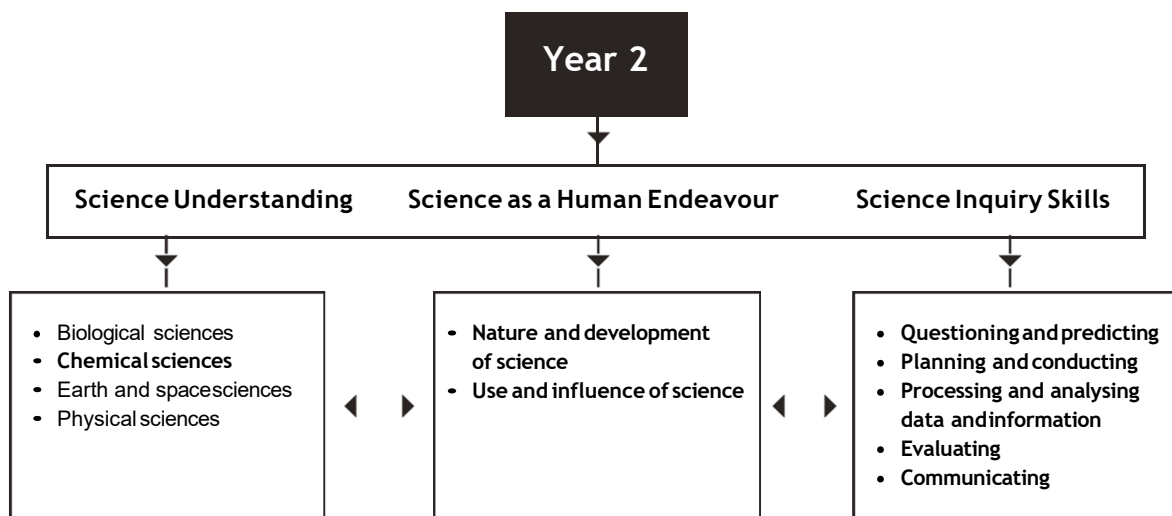
For ease of assessment the table below outlines the sub-strands and their aligned lessons.

Strand	Sub-strand	Code	Year 2 content descriptions	Lessons
Science Understanding	Biological Chemical	ACSU031	Different materials can be combined, including by mixing, for a particular purpose	1–8
	Nature and development of science	ACSHE034	Science involves asking questions about, and describing changes in, objects and events	1, 4, 5
Science as a Human Endeavour	Use and influence of science	ACSHE035	People use science in their daily lives, including when caring for their environment and living things	1, 2, 4, 5, 6, 7
	Questioning and predicting	ACSIS037	Respond to and pose questions, and make predictions about familiar objects and events	1, 2, 4, 5, 6, 7
Science Inquiry Skills	Planning and conducting	ACSIS038	Participate in different types of guided investigations to explore and answer questions, such as manipulating materials, testing ideas, and accessing information sources	2, 3, 4, 6, 7
		ACSIS039	Use informal measurements in the collection and recording of observations, with the assistance of digital technologies as appropriate	6
	Processing and analysing data and information	ACSIS040	Use a range of methods to sort information, including drawings and provided tables	1, 5, 6
		ACSIS214	Through discussion, compare observations with predictions	5, 6, 7
	Evaluating	ACSIS041	Compare observations with those of others	6, 7
	Communicating	ACSIS042	Represent and communicate observations and ideas in a variety of ways, such as oral and written language, drawing and role-play	5, 6, 7, 8

 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.



AC 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 *All mixed up* these overarching ideas are represented by:

Overarching idea	Incorporation in <i>All mixed up</i>
Patterns, order and organisation	Students classify mixtures according to different criteria, including the purpose that they might serve in their lives.
Form and function	Students explore how the different substances that form a mixture contribute to determining its form, which can in turn influence its use.
Stability and change	Students explore whether different mixtures can be easily separated or not, and therefore how stable the mixtures are.
Scale and measurement	Students consider relative scale of substances when recording observations of mixtures.
Matter and energy	Students explore how mixtures are combinations of substances that do not change and can be separated again. These experiences form the foundation for distinguishing simple mixtures from chemical reactions.
Systems	Students identify observable components within the simple system of a mixture. They find that some substances that appear uniform, such as black ink, are in fact mixtures.

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>All mixed up</i>
Awareness of self and the local world	Students use direct observations to gather information, describe, sort and make comparisons of the properties and purposes of mixtures

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 from 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 Year 2 achievement standard.


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

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

All mixed up—Australian Curriculum general capabilities

General capabilities	Australian Curriculum description	All mixed up examples
Literacy	<p>Literacy knowledge specific to the study of science develops along with scientific understanding and skills.</p> <p>PrimaryConnections 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.</p>	<p>In <i>All mixed up</i> the literacy focuses are:</p> <ul style="list-style-type: none"> • science journals • ideas maps • word walls • tables • annotated drawings • procedural texts • T-charts • role-plays.
 Numeracy	<p>Elements of numeracy are particularly evident in Science Inquiry Skills. These include practical measurement and the collection, representation and interpretation of data.</p>	<p>Students:</p> <ul style="list-style-type: none"> • collect, interpret and represent data about mixtures • measure ingredients to prepare a mixture.
Information and communication technology (ICT) competence	<p>ICT competence is particularly evident in Science Inquiry Skills. Students use digital technologies to investigate, create, communicate and share ideas and results.</p>	<p>Students are given optional opportunities to:</p> <ul style="list-style-type: none"> • use interactive resource technology to view, record and discuss information • use the internet to research further information about materials and how they might be used.
 Critical and creative thinking	<p>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.</p>	<p>Students:</p> <ul style="list-style-type: none"> • use reasoning to develop questions for inquiry • formulate, pose and respond to questions • develop evidence-based claims.
Ethical behaviour	<p>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.</p>	<p>Students:</p> <ul style="list-style-type: none"> • ask questions of others, respecting each other's point of view.
 Personal and social competence	<p>Students develop personal and social competence as they learn to work effectively in teams, develop collaborative methods of inquiry, work safely, and use their scientific knowledge to make informed choices.</p>	<p>Students:</p> <ul style="list-style-type: none"> • work collaboratively in teams • listen to and abide by rules of a new game • follow a procedural text for working safely • participate in discussions.
 Intercultural understanding	<p>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.</p>	<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



The PrimaryConnections 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

All mixed up focuses on the Western science way of making evidence-based claims about how different materials can be combined and separated and for what purpose.

Aboriginal and Torres Strait Islander Peoples might have different explanations for how different things are mixed together and for what purpose.

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 *All mixed up*, students explore whether or not mixtures can be easily separated.

The recognition that some materials are more or less easy to separate is important when considering our impact on the environment. A simple mixture of sugar and cocoa powder can be difficult to separate. Explorations of water and oil can also provide a framework for better understanding the effects of oil spills.

Alignment with the Australian Curriculum: English and Mathematics

Strand	Sub-strand	Code	Year 2 content descriptions	Lessons
English– Language	Language variation and change	ACELA1460	Understand that spoken, visual and written forms of language are different modes of communication with different features and their use varies according to the audience, purpose, context and cultural background	2, 3, 4, 5, 8
	Language for interaction	ACELA1461	Understand that language varies when people take on different roles in social and classroom interactions and how the use of key interpersonal language resources varies depending on context	1–8
	Text structure and organisation	ACELA1463	Understand that different types of texts have identifiable text structures and language features that help the text serve its purpose	1, 2, 3
		ACELA1466	Know some features of text organisation including page and screen layouts, alphabetical order, and different types of diagrams, for example, timelines	2, 3, 4, 6
	Expressing and developing ideas	ACELA1468	Understand that nouns represent people, places, concrete objects and abstract concepts; that there are three types of nouns: common, proper and pronouns; and that noun groups/phrases can be expanded using articles and adjectives	2, 6
		ACELA1470	Understand the use of vocabulary about familiar and new topics and experiment with and begin to make conscious choices of vocabulary to suit audience and purpose	2, 3, 4, 6, 7, 8
English– Literacy	Interacting with others	ACELY1666	Listen for specific purposes and information, including instructions, and extend students' own and others' ideas in discussions	2–8
		ACELY1789	Use interaction skills including initiating topics, making positive statements and voicing disagreement in an appropriate manner, speaking clearly and varying tone, volume and pace appropriately	1, 2, 3, 4, 5, 8
		ACELY1667	Rehearse and deliver short presentations on familiar and new topics	5, 8
	Creating texts	ACELY1671	Create short imaginative, informative and persuasive texts using growing knowledge of text structures and language features for familiar and some less familiar audiences, selecting print and multimodal elements appropriate to the audience and purpose	6, 8
Mathematics– Statistics and Probability	Data representation and interpretation	ACMSP049	Collect, check and classify data	1, 5, 6
		ACMSP050	Create displays of data using lists, table and picture graphs, and interpret them	2, 5, 6, 7

 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.primaryconnections.org.au).