


Alignment with the Australian Curriculum: Science

This *Spot the difference* unit embeds all three strands of the Australian Curriculum: Science. The table below lists sub-strands and their content for Year 1. This unit is designed to be taught in conjunction with other Year 1 units to cover the full range of the Australian Curriculum: Science content for Year 1.

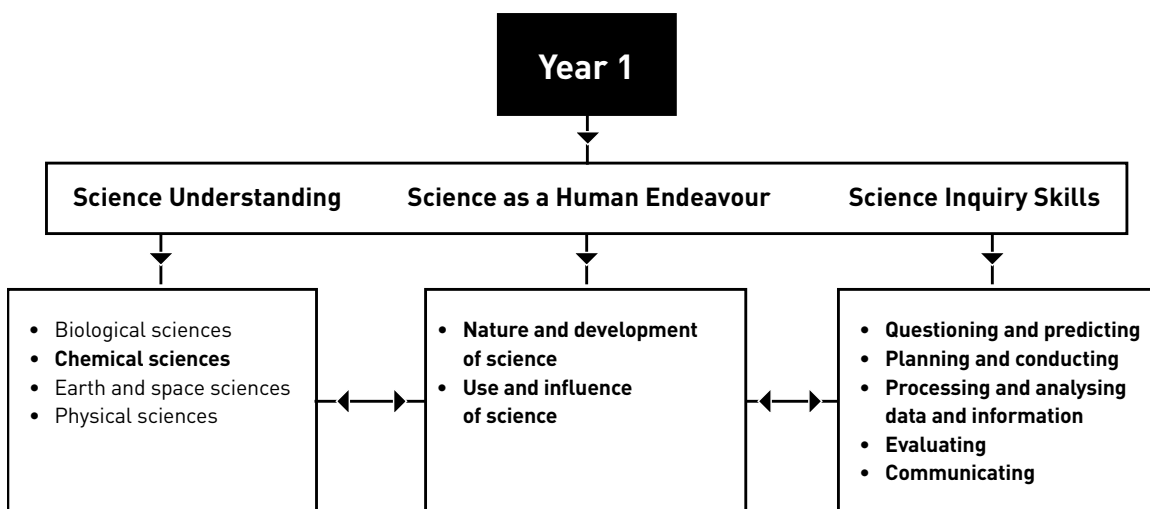
For ease of assessment the table below outlines the sub-strands and their aligned lessons.

Strand	Sub-strand	Code	Year 1 content descriptions	Lessons
Science Understanding	Chemical sciences	ACSSU018	Everyday materials can be physically changed in a variety of ways	1–6
Science as a Human Endeavour	Nature and development of science	ACSHE021	Science involves asking questions about, and describing changes in, objects and events	1–6
	Use and influence of science	ACSHE022	People use science in their daily lives, including when caring for their environment and living things	1, 2, 3, 4, 6
Science Inquiry Skills	Questioning and predicting	ACSIS024	Respond to and pose questions, and make predictions about familiar objects and events	1–6
	Planning and conducting	ACSIS025	Participate in different types of guided investigations to explore and answer questions, such as manipulating materials, testing ideas, and accessing information sources	2, 3, 5
		ACSIS026	Use informal measurements in the collection and recording of observations, with the assistance of digital technologies as appropriate	5
	Processing and analysing data and information	ACSIS027	Use a range of methods to sort information, including drawings and provided tables	2, 3, 5, 6
		ACSIS212	Through discussion, compare observations with predictions	5
	Evaluating	ACSIS213	Compare observations with those of others	1, 2, 3, 5
	Communicating	ACSIS029	Represent and communicate observations and ideas in a variety of ways, such as oral and written language, drawing and role-play	1–6

 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 *Spot the difference* these overarching ideas are represented by:

Overarching idea	Incorporation in <i>Spot the difference</i>
Patterns, order and organisation	Students observe and compare changes in everyday materials, in particular, food. They use word chains to order the steps in a process of change, such as cooking, melting or freezing.
Form and function	Students explore the uses of materials before and after changes. They investigate how changing the properties of a material can change its use, for example, the suitability for constructing a tower.
Stability and change	Students predict how heating and cooling can change foods. They explain that the properties remain the same at a set temperature. They describe how some changes can be reversed and others cannot.
Scale and measurement	Students measure, record and compare the amount of time required for different types of chocolate to melt.
Matter and energy	Students explore how the transfer of energy in the form of heat affects different materials and can change their properties.
Systems	Students identify the observable properties of materials and how these properties are part of the whole object.

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>Spot the difference</i>
Awareness of self and the local world	Students use their senses to observe and explore changes to everyday materials, for example spaghetti strands. They investigate and compare how different types of chocolate melt at different rates. They describe the effect of heating and cooling on the properties of different types of everyday foods.

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 the 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 1 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.

Spot the difference—Australian Curriculum general capabilities

General capabilities	Australian Curriculum description	Spot the difference examples
Literacy	<p>Literacy knowledge specific to the study of science develops along with scientific understanding and skills.</p> <p>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.</p>	<p>In <i>Spot the difference</i> the literacy focuses are:</p> <ul style="list-style-type: none"> • science journals • word walls • annotated drawings • word chains • tables • drawings.
 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"> • collaboratively use tables to organise data • interpret tables to compare observed changes.
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 analyse information.
 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"> • formulate, pose and respond to questions about how everyday materials change • speculate on different ways to change materials • give reasons to justify their responses to questions.
Ethical behaviour	<p>Students develop ethical behaviour as they explore ethical principles and guidelines in gathering evidence and consider the ethical implications of their investigations on others and the environment.</p>	<p>Students:</p> <ul style="list-style-type: none"> • ask questions respecting each other's point of view • consider the health and safety of others when working with food.
 Personal and social competence	<p>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.</p>	<p>Students:</p> <ul style="list-style-type: none"> • work collaboratively in teams • participate in discussions • follow directions to work safely.
 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

PrimaryConnections has developed an Indigenous perspective framework which has informed practical reflections on intercultural understanding. It can be accessed at: www.science.org.au/primaryconnections

Spot the difference focuses on the Western science way of exploring everyday changes using physical senses and controlled investigations, for example, a fair test. Students sort information into tables and make comparisons to draw conclusions. They relate changes in materials to changes in ways in which objects can be used, and explore how a physical process like heat can cause changes.

Indigenous cultures might have different ways of exploring and understanding the world around them. They might also have different explanations for the underlying processes causing change in objects and materials.

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 *Spot the difference* unit students investigate how materials can physically change due to different processes, such as heating and cooling. This provides a basis for understanding how some human activities can affect the properties and use of certain materials. This understanding enables students to develop the knowledge, skills and values for making decisions about how their activities might impact on the environment around them.

Alignment with the Australian Curriculum: English and Mathematics

Strand	Sub-strand	Code	Year 1 content descriptions	Lessons
English– Language	Language for interaction	ACELA1444	Understand that language is used in combination with other means of communication, for example facial expressions and gestures to interact with others	1–6
		ACELA1446	Understand that there are different ways of asking for information, making offers and giving commands	1–6
	Expressing and developing ideas	ACELA1451	Identify the parts of a simple sentence that represent ‘What’s happening?’, ‘Who or what is involved?’ and the surrounding circumstances	1–6
		ACELA1454	Understand the use of vocabulary in everyday contexts as well as a growing number of school contexts, including appropriate use of formal and informal terms of address in different contexts	1–6
English– Literacy	Interacting with others	ACELY1656	Engage in conversations and discussions, using active listening behaviours, showing interest, and contributing ideas, information and questions	1–6
		ACELY1788	Use interaction skills including turn-taking, recognising the contributions of others, speaking clearly and using appropriate volume and pace	1–6
		ACELY1657	Make short presentations using some introduced text structures and language, for example opening statements	4
	Interpreting, analysing, evaluating	ACELY1658	Describe some differences between imaginative, informative and persuasive texts	1
	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	2, 4
Mathematics– Statistics and Probability	Chance	ACMSP024	Identify outcomes of familiar events involving chance and describe them using everyday language such as ‘will happen’, ‘won’t happen’ or ‘might happen’	1–6
	Data representation and interpretation	ACMSP262	Choose simple questions and gather responses	3, 5

 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)