

Alignment with the Australian Curriculum: Science

This *On the move* 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.

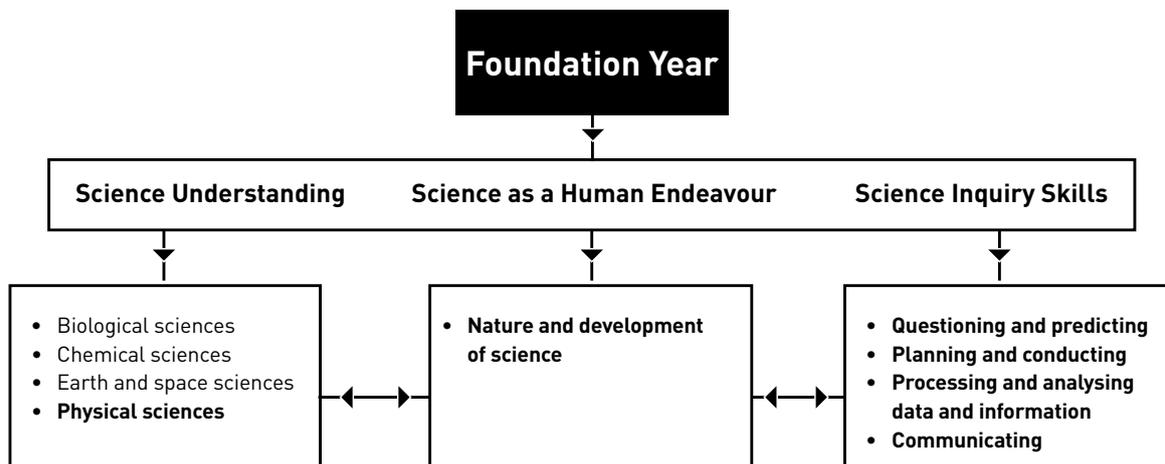
For ease of assessment the table below outlines the sub-strands and their aligned lessons.

Strand	Sub-strand	Code	Foundation Year content descriptions	Lessons
Science Understanding (SU)	Physical sciences	ACSSU005	The way objects move depends on a variety of factors, including their size and shape	1–7
Science as a Human Endeavour (SHE)	Nature and development of science	ACSHE013	Science involves exploring and observing the world using the senses	1–7
Science Inquiry Skills (SIS)	Questioning and predicting	ACSIS014	Respond to questions about familiar objects and events	1–7
	Planning and conducting	ACSIS011	Explore and make observations by using the senses	1–7
	Processing and analysing data and information	ACSIS233	Engage in discussions about observations and use methods such as drawing to represent ideas	1–7
	Communicating	ACSIS012	Share observations and ideas	1–7

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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.



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 *On the move* these overarching ideas are represented by:

Overarching idea	Incorporation in <i>On the move</i>
Patterns, order and organisation	Students observe and describe human movements and predict and observe things that move inside and outside the classroom. Through making observations and identifying patterns of similarities and differences in the size and shape of toys, the way they move, or in the parts that allow them to move, students classify a collection of toys.
Form and function	Students observe the behaviour and physical properties of things that move and explore how factors such as shape and size affect their use. They investigate the effect of surface on how far things roll.
Stability and change	The students observe and describe changes that occur when objects move. They explore how they can apply a force to change the movement of objects.
Scale and measurement	Students work with an informal scale related to their everyday experience. They compare how far two similar objects of different size roll, and then compare how far an object that rolls easily will roll on a smooth and on a rough surface.
Matter and energy	Students directly experience push and pull forces and observe the movement of humans and other things in their environment. They investigate rolling and observe the effect of shape, size and surface on movement and on how far things will roll.
Systems	Students explore, describe and analyse forces and motion and the components and observable features of familiar objects that move. This enables them to explain the movement of objects and to predict events involving movement.

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Curriculum focus

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

Curriculum focus Foundation–Year 2	Incorporation in <i>On the move</i>
Awareness of self and the local world	Students explore human movement, how and why some objects move and how they can make objects move. They use their senses to observe, gather information, make comparisons, describe, sort and classify movements and identify features involved in movement. They observe and explore how size, shape and surface will affect how far and how easily an object will roll and how objects can move in different ways.

Achievement standards

The achievement standards of the Australian Curriculum: Science indicates 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 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 units. For unit-specific information see the next page. For further information see:

www.australiancurriculum.edu.au

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

On the move—Australian Curriculum general capabilities

General capabilities	Australian Curriculum description	On the move 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>On the move</i> the literacy focuses are:</p> <ul style="list-style-type: none"> • science journals • tables • word walls • labelled diagrams • Venn diagrams • graphs.
 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 and represent data using tables • categorise toys according to movement, shape and size • collect data and with guidance represent it with a graph • make direct comparisons of length and size, and explain reasoning in everyday language • identify and name objects of similar shape from their environment.
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 digital photography to record movement • use digital photography for the word wall.
 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"> • discussing body movements • predict, and test predictions • pose and respond to questions • identify body parts involved in specific movements.
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.
 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"> • working in pairs to play, 'Simon Says' • work with partner to observe playground movement • participate in discussion • work collaboratively in teams.
 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 • Important contributions made to science by people from a range of cultures are highlighted.

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.science.org.au/primaryconnections

On the move focuses on the Western science way of making evidence-based claims about the way living things and objects move.

Aboriginal and Torres Strait Islander Peoples might have other explanations for the phenomenon of movement in living and non-living things.

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

The *On the move* unit provides opportunities for students to explore the things that effect movement, such as size, shape and the texture of a surface. Everything in their environment is constantly moving in one way or another, and developing an understanding of movement relates to developing an understanding of energy. Through their investigations, students test their ideas about factors that affect rolling, sliding, bouncing and spinning, and they explore human movement and the body parts involved. This contributes to students' understanding of the way humans interact with each other and the environment. This can assist them to develop knowledge, skills and values for making decisions about their actions for sustainable patterns of living.

Alignment with the Australian Curriculum: English and Mathematics

Strand	Sub-strand	Code	Foundation Year content descriptions	Lessons
English– Language	Language for interaction	ACELA1428	Explore how language is used differently at home and school depending on the relationships between people	1–7
		ACELA1430	Understand that texts can take many forms, can be very short (for example an exit sign) or quite long (for example an information book or film) and that stories and informative texts have different purposes	3, 4, 6, 7
	ACELA1431			Understand that some language in written texts is unlike everyday spoken language
	Expressing and developing ideas	ACELA1435	Recognise that sentences are key units for expressing ideas	1, 2, 4, 7
		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
		ACELA1758	Know that spoken sounds and words can be written down using letters of the alphabet and how to write some high-frequency sight words and known words	1, 2, 3, 4, 7
	English– Literature	Examining literature	ACELT1579	Replicate the rhythms and sound patterns in stories, rhymes, songs and poems from a range of cultures
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	4, 7
	Interpreting, analysing, evaluating	ACELY1649	Read predictable texts, practising phrasing and fluency, and monitor meaning using concepts about print and emerging contextual, semantic, grammatical and phonic knowledge	5