



Science K–10 (incorporating Science and Technology K–6)

Syllabus Outcomes and Content Mapping Grids

Stage 1

The templates for mapping syllabus outcomes and content have been provided to assist teachers in evaluating existing and planning new teaching–learning programs for the *Science K–10 (incorporating Science and Technology K–6) Syllabus (2012)*









Outcomes Mapping Grid – Stage 1

Outcome		A student:	Year 1				Year 2			
			Unit				Unit			
			1	2	3	4	1	2	3	4
Values and attitudes	ST1-1VA	shows interest in and enthusiasm for science and technology, responding to their curiosity, questions and perceived needs, wants and opportunities								
	ST1-2VA	demonstrates a willingness to engage responsibly with local, national and global issues relevant to their lives, and to shaping sustainable futures								
	ST1-3VA	develops informed attitudes about the current and future use and influence of science and technology based on reason								
Skills	ST1-4WS	investigates questions and predictions by collecting and recording data, sharing and reflecting on their experiences and comparing what they and others know								
	ST1-5WT	uses a structured design process, everyday tools, materials, equipment and techniques to produce solutions that respond to identified needs and wants								
Knowledge and understanding	ST1-6PW	describes some sources of light and sound that they sense in their daily lives								
	ST1-7PW	describes effects of pushes and pulls on objects they encounter								
	ST1-8ES	describes some observable changes that occur in the sky and landscape								
	ST1-9ES	identifies ways that people use science in their daily lives to care for the environment and the Earth's resources								
	ST1-10LW	describes external features, changes in and growth of living things								
	ST1-11LW	describes ways that different places in the environment provide for the needs of living things								
	ST1-12MW	identifies ways that everyday materials can be physically changed and combined for a particular purpose								
	ST1-13MW	relates the properties of common materials to their use for particular purposes								
	ST1-14BE	describes a range of places and spaces in the local environment and how their purposes influence their design								
	ST1-15I	describes a range of familiar information sources and technologies and how their purposes influence their design								
	ST1-16P	describes a range of manufactured products in the local environment and how their different purposes influence their design								

Content Mapping Grid – Stage 1

Working Scientifically		Year 1				Year 2			
		Unit				Unit			
		1	2	3	4	1	2	3	4
A student investigates questions and predictions by collecting and recording data, sharing and reflecting on their experiences and comparing what they and others know ST1-4WS									
Content	<i>Students question and predict by:</i>								
	<ul style="list-style-type: none"> responding to and posing questions (ACSIS024, ACSIS037) 								
	<ul style="list-style-type: none"> making predictions about familiar objects and events and the outcomes of investigations (ACSIS024, ACSIS037, ACSHE021, ACSHE034) 🎓 ⚙️ 								
	<i>Students plan investigations by:</i>								
	<ul style="list-style-type: none"> identifying the purpose of the investigation 								
	<ul style="list-style-type: none"> suggesting some types of activities that need to be undertaken during the processes of Working Scientifically 								
	<ul style="list-style-type: none"> suggesting observations that could be made to collect data and/or information about their questions and predictions 🎓 📊 								
	<ul style="list-style-type: none"> recognising that the results of investigations can inform the processes of Working Technologically 								
	<i>Students conduct investigations by:</i>								
	<ul style="list-style-type: none"> working cooperatively and individually when participating in different types of guided investigations to explore and answer questions, such as manipulating materials, testing ideas, and accessing information sources, surveys and fieldwork (ACSIS025, ACSIS038) 👥 								
	<ul style="list-style-type: none"> using a range of methods to gather data and/or information, including using their senses to make observations safely and carefully, using simple tools and equipment 📊 								
	<ul style="list-style-type: none"> using informal measurements in the collection and recording of observations, with the assistance of digital technologies as appropriate (ACSIS026, ACSIS039) 📊 🖥️ 								
	<ul style="list-style-type: none"> making and recording observations and measurements honestly, using tally marks and informal units 📊 📏 								
	<i>Students process and analyse data and information by:</i>								
	<ul style="list-style-type: none"> using a range of methods to sort information, including drawings and provided tables, to match objects and events based on easily observable characteristics (ACSIS027, ACSIS040) 🎓 								
	<ul style="list-style-type: none"> describing changes in objects and events observed in investigations (ASSHE021, ASSHE034) 								
	<ul style="list-style-type: none"> comparing observations with those of others to identify similarities and differences in the findings of their investigations (ACSIS213, ACSIS041) 								
	<ul style="list-style-type: none"> comparing observations with predictions through discussion, as to whether observations were expected and related to their questions and/or predictions (ACSIS212, ACSIS214) ⚙️ 								
	<ul style="list-style-type: none"> sharing their ideas about the need for safety, care and honesty in observing, recording, displaying and interpreting data and/or information 👥 📏 								
	<i>Students communicate by:</i>								
<ul style="list-style-type: none"> representing and communicating observations and ideas using oral and written language, drawing and role-play (ACSIS029, ACSIS042) 🎓 									
<ul style="list-style-type: none"> displaying data and information in a variety of ways, including drawings, simple texts, provided tables and graphs, using digital technologies as appropriate 🖥️ 📊 									
<ul style="list-style-type: none"> sharing what they did and what they could do differently throughout the investigating process ⚙️ 👥 									

Content Mapping Grid – Stage 1

Working Technologically		Year 1				Year 2			
		Unit				Unit			
		1	2	3	4	1	2	3	4
A student uses a structured design process, everyday tools, materials, equipment and techniques to produce solutions that respond to identified needs and wants ST1-5WT									
Content	<i>Students explore and define a task by:</i>								
	<ul style="list-style-type: none"> identifying needs and wants of users/audiences, eg using interviews, observations and surveys   								
	<i>Students generate and develop ideas by:</i>								
	<ul style="list-style-type: none"> researching and exploring different sources of information, including the internet 								
	<ul style="list-style-type: none"> exploring different materials by observing and manipulating them and using trial-and-error  								
	<ul style="list-style-type: none"> using techniques for documenting and communicating design ideas, including simple plans, drawings and models, using familiar materials  								
	<ul style="list-style-type: none"> describing the features of design ideas and the materials they select 								
	<ul style="list-style-type: none"> using feedback from others to refine design ideas  								
	<ul style="list-style-type: none"> using the results of investigations to refine design ideas 								
	<i>Students produce solutions by:</i>								
	<ul style="list-style-type: none"> suggesting simple steps for production 								
	<ul style="list-style-type: none"> using a range of everyday tools, equipment, materials and techniques 								
	<ul style="list-style-type: none"> working cooperatively and safely  								
	<i>Students evaluate by:</i>								
	<ul style="list-style-type: none"> explaining the strengths and limitations of what they did and what could have been done differently to improve the solution  								
	<ul style="list-style-type: none"> identifying how their solution meets the needs and wants of users/audiences  								











Content Mapping Grid – Stage 1

Physical World		Year 1				Year 2			
		Unit				Unit			
		1	2	3	4	1	2	3	4
A student: <ul style="list-style-type: none"> describes some sources of light and sound that they sense in their daily lives ST1-6PW describes effects of pushes and pulls on objects they encounter ST1-7PW 									
Content	<i>Light and sound are produced by a range of sources and can be sensed.</i> (ACSSU020)								
	Students:								
	<ul style="list-style-type: none"> share their observations and ideas about different sources of light and sound encountered in their daily lives and their senses that detect them 👁️👂 								
	<ul style="list-style-type: none"> produce different sounds from familiar objects using actions, eg striking, blowing, scraping or shaking 								
	<ul style="list-style-type: none"> use their sense of touch to feel vibrations from familiar objects and infer that sound is made when an object vibrates, eg vocal cords, a stringed instrument or a rubber band 								
	<ul style="list-style-type: none"> explore how the loudness and range of types of sounds are related to the action used to produce them 								
	<ul style="list-style-type: none"> compare the range of types of sounds produced by musical instruments used by people from different cultures, eg didgeridoo or sitar 🌐👋🎵 								
	<i>A push or a pull affects how an object moves or changes shape.</i> (ACSSU033)								
	Students:								
	<ul style="list-style-type: none"> describe the effects of pushes and pulls on familiar objects, including moving, stopping and changing direction, changing shape or breaking 								
	<ul style="list-style-type: none"> explore how different strengths of pushes and pulls affect the movement of objects on land and through water and air 🏠 								
	<ul style="list-style-type: none"> demonstrate some ways that people use pushes and pulls in their everyday life, eg sweeping with brooms or riding skateboards 🛹 								

Content Mapping Grid – Stage 1

Earth and Space		Year 1				Year 2			
		Unit				Unit			
		1	2	3	4	1	2	3	4
A student: <ul style="list-style-type: none"> describes some observable changes that occur in the sky and landscape ST1-8ES identifies ways that people use science in their daily lives to care for the environment and the Earth's resources ST1-9ES 									
Content	Observable changes occur in the sky and landscape. (ACSSU019)								
	Students:								
	<ul style="list-style-type: none"> use a range of methods to describe observable, short-term changes in the sky, eg clouds, the appearance of the stars at night and the position of the sun during the day 								
	<ul style="list-style-type: none"> observe and record environmental changes that occur over a longer time to identify patterns of events, eg seasonal changes in temperature and the appearance of the moon 🎓📅 								
	<ul style="list-style-type: none"> describe some physical features of a landscape that have been changed by floods, droughts or processes, eg weathering and erosion 🌿 								
	Earth's resources, including water, are used in a variety of ways. (ACSSU032)								
	Students:								
	<ul style="list-style-type: none"> identify that some common resources are obtained from the Earth, including soil, minerals and water ⚙️ 								
	<ul style="list-style-type: none"> describe how some materials obtained from the Earth are used in a range of products at home or at school 								
	<ul style="list-style-type: none"> share their observations and ideas about the ways that water is used by people in their daily lives 🎓👥 								
	<ul style="list-style-type: none"> identify some actions which could be taken to care for and use water sustainably, eg turning off dripping taps and/or taking shorter showers 🌿⚖️ 								
	<ul style="list-style-type: none"> explore ways in which people use science knowledge and skills in their daily lives to care for the environment and use resources sustainably (ACSHE022, ACSHE035) 🌿🌱⚙️🎓 								

Content Mapping Grid – Stage 1

Living World		Year 1				Year 2			
		Unit				Unit			
		1	2	3	4	1	2	3	4
A student: <ul style="list-style-type: none"> describes external features, changes in and growth of living things ST1-10LW describes ways that different places in the environment provide for the needs of living things ST1-11LW 									
Content	<i>Living things have a variety of external features. (ACSSU017)</i>								
	Students:								
	<ul style="list-style-type: none"> describe some external features of a variety of living things, including plants and animals 								
	<ul style="list-style-type: none"> use a range of methods, including fieldwork, to identify plants or animals in their local area 								
	<ul style="list-style-type: none"> devise simple classification systems based on the observable external features of plants or animals identified in the local area 								
	<i>Living things grow, change and have offspring similar to themselves. (ACSSU030)</i>								
	Students:								
	<ul style="list-style-type: none"> record the changes in growth of a common plant or animal, using informal units, provided tables and digital technologies as appropriate   								
	<ul style="list-style-type: none"> observe and record some of the changes a common plant or animal shows during its life, using an appropriate digital technology, eg a camera    								
	<ul style="list-style-type: none"> compare the appearance of adult living things with their offspring, eg trees, insects, birds, reptiles, cats or humans 								
	<i>Living things live in different places where their needs are met. (ACSSU211)</i>								
	Students:								
	<ul style="list-style-type: none"> observe the different places in a local land or aquatic environment where living things can be found, eg a schoolyard, pond, beach or bush 								
	<ul style="list-style-type: none"> explore the needs of a plant or an animal in its environment 								
<ul style="list-style-type: none"> describe how some different places in a local land or aquatic environment provide for the needs of the animals or plants that live there  									
<ul style="list-style-type: none"> observe and record ways people use science knowledge and skills in their daily lives to care for living things, such as gardeners, farmers or pet carers (ACSHE022, ACSHE035)     									

Content Mapping Grid – Stage 1

Material World		Year 1				Year 2			
		Unit				Unit			
		1	2	3	4	1	2	3	4
A student: <ul style="list-style-type: none"> identifies ways that everyday materials can be physically changed and combined for a particular purpose ST1-12MW relates the properties of common materials to their use for particular purposes ST1-13MW 									
Content	<i>Everyday materials can be physically changed in a variety of ways. (ACSSU018)</i>								
	Students:								
	<ul style="list-style-type: none"> explore how some everyday materials can be physically changed by actions, eg bending, twisting, stretching, squashing or heating 								
	<i>Different materials can be combined, including by mixing, for a particular purpose. (ACSSU031)</i>								
	Students:								
	<ul style="list-style-type: none"> predict the changes materials will undergo when they are combined, eg sugar in water or different colours of paint; and when they are mixed, eg sand and water or cake ingredients ✨ 								
	<ul style="list-style-type: none"> compare their observations with their predictions when materials are combined and mixed 								
	<ul style="list-style-type: none"> explore examples of how people at home and work change and combine different materials for a particular purpose, eg food preparation and making concrete ✨ ✨ 								
	<i>The different properties of materials enable them to be used for particular purposes.</i>								
	Students:								
	<ul style="list-style-type: none"> use their senses to identify the similarities and differences in the properties of materials, eg the textures of different fabrics, the difference in hardness of solid materials and the runniness of different liquids 								
	<ul style="list-style-type: none"> identify the properties of some common materials and why they are used for particular purposes, eg the waterproof property of plastic rainwear or insulating property of a woollen jumper ✨ 								
	<ul style="list-style-type: none"> identify a range of natural materials used by Aboriginal and Torres Strait Islander peoples and share ideas about the ways they are used to suit a particular purpose, eg the use of wood, stone and fibres in the built environment 🖐 								





Content Mapping Grid – Stage 1

Built Environments		Year 1				Year 2			
		Unit				Unit			
		1	2	3	4	1	2	3	4
A student describes a range of places and spaces in the local environment and how their purposes influence their design ST1-14BE									
Content	<i>There is a range of places and spaces in the local environment.</i>								
	Students:								
	<ul style="list-style-type: none"> observe ways people use a range of places and spaces in their local environment, eg areas within the schoolyard and the home 🏠 🏡 								
	<i>The purposes of places and spaces in the local environment influence their design.</i>								
	Students:								
	<ul style="list-style-type: none"> explore a range of places and spaces in the local environment and describe their different purposes, eg a hospital or playground 								
	<ul style="list-style-type: none"> describe how the different purposes of places and spaces in the local environment influence their design, eg storage and cooling areas in a supermarket and enclosures for pets and farm animals 🏪 🐕 🐑 								
<ul style="list-style-type: none"> examine some familiar places and spaces in the local environment and suggest modifications to their design 									

Content Mapping Grid – Stage 1

Information		Year 1				Year 2			
		Unit				Unit			
		1	2	3	4	1	2	3	4
A student describes a range of familiar information sources and technologies and how their purposes influence their design ST1-15I									
Content	<i>There is a range of information sources and technologies.</i>								
	Students:								
	<ul style="list-style-type: none"> use a range of information technologies to communicate with others, eg letters, telephones, cameras and emails 📧📷 								
	<ul style="list-style-type: none"> interact with an information source or technology to explore the ways that different forms of information are combined, including text, image and sound, eg a website or digital game 🖥️👥 								
	<ul style="list-style-type: none"> explore communication methods used by Aboriginal and Torres Strait Islander peoples to share ideas and information, eg dance, stories, music and art 🖐️🌐 								
	<i>The purposes of information sources and technologies influence their design.</i>								
	Students:								
	<ul style="list-style-type: none"> interact with a range of familiar information sources and technologies and identify their purposes, eg television programs, websites, digital games, newspapers and magazines 📺📖 								
	<ul style="list-style-type: none"> describe how the purpose of a specific information source or technology influences its design, eg a website or game 🖥️👥🎮 								

Content Mapping Grid – Stage 1

Products		Year 1				Year 2			
		Unit				Unit			
		1	2	3	4	1	2	3	4
A student describes a range of manufactured products in the local environment and how their different purposes influence their design ST1-16P									
Content	<i>There is a range of manufactured products in the local environment.</i>								
	Students:								
	<ul style="list-style-type: none"> explore a variety of products in the local environment, eg food products and industrial products 								
	<ul style="list-style-type: none"> discuss the purpose and usefulness of familiar applications of science and technology products used in everyday life, eg rechargeable batteries, recycled materials and single-use disposable food containers   								
	<ul style="list-style-type: none"> describe a variety of ways in which Aboriginal and Torres Strait Islander peoples have used or continue to use natural materials to make products that meet their needs, eg the use of natural fibres to make woven products  								
	<i>The different purposes of products influence their design.</i>								
	Students:								
	<ul style="list-style-type: none"> identify the purpose of some familiar products and explore the features of their designs that make the products work, eg the broad brim on a sun hat or a plastic raincoat 								
	<ul style="list-style-type: none"> explore ways that products may be designed and made to conserve resources, eg recyclable materials and reusable containers  								
	<ul style="list-style-type: none"> discuss the strengths and limitations of a specific product, considering the materials from which it is made 