

Science sample unit: Life Skills**Depending on each other****Stage 4****Unit context**

The focus of this unit is for students to engage in the skills and processes of Working Scientifically in order to develop their scientific understanding about the importance of the environment for the survival and reproduction of all living things. Students gain an appreciation that we all have a responsibility to care for and protect the environment to ensure that our environment continues to provide for the needs of living things, including humans.

Duration: 10 weeks**Unit overview**

In this unit, students explore a range of living things in their local environment. Through the processes of Working Scientifically, students develop their knowledge and understanding of the features and needs of a range of living things. They explore some ways that human activity can affect the interrelationship between living things and their environment.

When undertaking this unit, it is important to take into account the individual communication strategies used by students. Students' responses may be communicated through:

- gestures and/or facial expressions
- the use of visual aids or symbols, such as a communication board
- assistive or augmentative technology
- varying degrees of verbal expression
- written forms.

A variety of activities has been presented and may be selected as appropriate to allow for students' individual communication strategies, as well as their needs, interests and abilities.

Note: All teachers who use animals for educational purposes must comply with the NSW [Animal Welfare guidelines](#).

Resources

The following resources may provide additional support for teaching and learning activities in this unit:

- Konza, D & Woodley, L (2009) *Special Education Resources for Teachers: Science*, David Barlow Publishing, NSW
- Science & Technology K–6 Teachers' Kits (1991), Board of Studies NSW:
 - *Growing Up Stage 1*
 - *Mini-Worlds Stage 2*
 - *Cycles in our World Stage 2*
 - *Environment Matters Stage 3*
- Pennington, B (2008) *Life and Living, Ages 8–10: Hands-on Science Experiments for the Classroom*, MacMillan Education Australia
- [Science Kids: Fun science and technology for kids!](#)
- [everythingESL](#): The K–12 ESL Resource from Judie Haynes, [Categorising and Classifying Animals lesson plan](#)
- [Questacon](#)

Outcomes	Assessment overview
<p>Values and Attitudes</p> <p>SCLS-3VA demonstrates a willingness to engage with science-related issues relevant to their lives</p> <p>Skills</p> <p>SCLS-4WS asks questions that can be tested and makes predictions</p> <p>SCLS-5WS participates in planning to investigate questions or problems</p> <p>SCLS-6WS participates in an investigation by following a sequence</p> <p>SCLS-7WS collects, records and interprets data and information</p> <p>SCLS-8WS recognises strategies to solve identified problems</p> <p>SCLS-9WS uses a variety of strategies to communicate information about an investigation</p> <p>Knowledge and Understanding</p> <p>SCLS-17LW recognises features of living and non-living things</p> <p>SCLS-18 LW identifies structures of living things and their functions</p> <p>SCLS-20LW explores the interactions of living things with each other and the environment</p> <p>SCLS-21LW investigates the effect of science and technology on the environment</p>	<p>Evidence of student learning can be gathered through:</p> <p>Skills</p> <ul style="list-style-type: none"> • participation in planning fieldwork to recognise living things in the environment and the investigation into how light affects plants • participation in conducting the investigation into how light affects plants • recording and interpreting data and information gathered through fieldwork and investigation • participating in community activities/projects to protect/conservate a local environment. <p>Knowledge and Understanding</p> <ul style="list-style-type: none"> • distinguishing features of living and non-living things • classifying living things according to structural features • identifying parts of plants • recognising the needs of living things • constructing and interpreting food chains • recognising ways living things interact with each other and with their environment.

Content	Teaching, learning and assessment	Resources
<p>Skills – Working Scientifically</p> <p>Planning investigations</p> <p>Students plan investigations by:</p> <ul style="list-style-type: none"> • suggesting suitable methods for gathering data, including practical investigations and research, using secondary sources 📊 • identifying scientific equipment and materials, and their purposes • identifying safety rules when using scientific equipment and materials in an investigation ★ <p>Conducting investigations</p> <p>Students conduct investigations by:</p> <ul style="list-style-type: none"> • using a range of techniques including practical experiences, surveys, fieldwork and research to gather data and information, using digital technologies as appropriate 📱📊 • selecting and using appropriate equipment, measuring tools and methods to make accurate observations and measurements 📊 <p>Knowledge and Understanding</p> <p>Living World: Structure and Function</p> <p>There are differences within and between living things.</p> <p><i>Living and non-living things</i></p> <p>Students:</p> <ul style="list-style-type: none"> • recognise living things and non-living things at home, at school and in the community 	<p>Planning and conducting fieldwork</p> <p>Discuss with students what they know about the environment. As a class, create a mindmap that can be added to throughout the unit.</p> <p>Students participate in planning how they will conduct fieldwork to recognise a variety of living things in the school, home and/or community environment, eg pond, park, stream. This may require teacher guidance and may include:</p> <ul style="list-style-type: none"> • selecting locations within the environment to make observations • preparing materials and equipment, eg recording devices, cameras, clipboards and worksheets, tablets • recognising safety rules and equipment • planning methods for recording observations, eg completing a table, creating lists, illustrating. <p>Fieldwork can be adjusted to suit the needs of students and may include:</p> <ul style="list-style-type: none"> • observing living things in the school/home • recording living things in the school/home/community by photographing, videoing, illustrating, listing or creating tactile models • observing and/or recording living things in the community, eg pet shop, nursery, park. <p>Students follow the planned method to safely conduct the fieldwork to gather information about the variety of living things in the local environment that they explored.</p>	<p>Mindmapping tools, such as:</p> <ul style="list-style-type: none"> • Inspiration • Visuwords • bubbl.us <p>Materials required for fieldwork, eg recording devices, cameras, clipboards and worksheets, tablets</p>

Content	Teaching, learning and assessment	Resources
<p>Skills – Working Scientifically</p> <p>Processing and analysing data and information</p> <p>Students process and analyse data and information by:</p> <ul style="list-style-type: none"> interpreting data and information gathered 📊 <p>Knowledge and Understanding</p> <p>Living World: Structure and Function</p> <p>There are differences within and between living things.</p> <p><i>Features of living things</i></p> <p>Students:</p> <ul style="list-style-type: none"> recognise the two main groups of living things (animals and plants) identify a variety of plants and animals in the local environment explore ways that Aboriginal and Torres Strait Islander peoples classify plants or animals 🖐️ 	<p>Animals and plants</p> <p>Teacher background: Aboriginal and Torres Strait Islander people classify animals and plants according to their use. The Classifying Animals teaching sequence for Science Years 7–10 in the Aboriginal Education website provides further information for teachers.</p> <p>Students play an interactive game to recognise a variety of plants and animals.</p> <p>Students use their observations or recordings from their fieldwork to classify the living things that they observed into two groups: plants and animals. This may include:</p> <ul style="list-style-type: none"> responding to teacher questioning to identify plants and animals selecting from visual images or words to recognise different plants and animals completing a table or classification chart labelling items as plants or animals. <p>Additional activity</p> <p>Students communicate their findings to others. This may include:</p> <ul style="list-style-type: none"> responding to teacher questioning creating a table or chart creating a collage of images creating a poster making a PowerPoint presentation making a multimedia presentation. <p>Explore Aboriginal and Torres Strait Islander people’s classifications of animals and plants. Students think–pair–share different uses that Aboriginal and Torres Strait Islander people would have for animals and plants, eg food, shelter, clothing.</p>	<p>Board of Studies Aboriginal Education website: Science Years 7–10 Story 1: Environment – Aboriginal Perspectives</p> <p>Science Kids: Fun science and technology for kids! – Plant & Animal Differences game</p> <p>Multimedia presentation tools, such as:</p> <ul style="list-style-type: none"> PowerPoint Photo Story Movie Maker Animoto <p>Desktop publishing software, such as:</p> <ul style="list-style-type: none"> Microsoft Publisher Paint
<p>Skills – Working Scientifically</p> <p>Processing and analysing data and information</p> <p>Students process and analyse data and information by:</p> <ul style="list-style-type: none"> drawing conclusions from data and information gathered in an investigation ⚙️ 	<p>Living and non-living things</p> <p>Teacher background: Living things are identified by a combination of features, including growing; moving by themselves; taking in and using food, water and air; responding to stimuli in their surroundings; eliminating wastes; and reproducing (produce offspring). Non-living things cannot be classed as living as they do not have all of these features.</p> <p>Students recognise the features of living and non-living things.</p>	<p>Examples of objects that cannot be classified as living, eg rocks, soil, water, air, toys</p>

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<p>Knowledge and Understanding</p> <p><i>Living World: Structure and Function</i></p> <p>There are differences within and between living things.</p> <p><i>Living and non-living things</i></p> <p>Students:</p> <ul style="list-style-type: none"> group things according to whether they are living or non-living recognise the ways that living and non-living things are different, eg growing and reproducing <p><i>Features of living things</i></p> <p>Students:</p> <ul style="list-style-type: none"> describe characteristics of living things, eg living things grow and change, use food, use water and air, respond to changes and reproduce <p><i>Changes in living things</i></p> <p>Students:</p> <ul style="list-style-type: none"> recognise that living things have life cycles observe changes that occur in a plant and/or animal over time, eg by comparing a living adult with its offspring observe the stages in the life cycle of a common animal and/or plant represent stages in the life cycle of a common animal and/or plant in a variety of ways 🖋️ 	<p>Students may:</p> <ul style="list-style-type: none"> respond to teacher questioning when presented with images/objects of living and non-living things, eg Does this thing move by itself? Does this thing need food? collect three images/objects of things that they would classify as living and three things that they would classify as non-living, then divide the images/objects into groups as a class and discuss how they grouped the images/objects, eg through a combination of particular features circle the living things in a variety of images and discuss their features identify the 'odd one out' in a group of images, where one image is the only living or non-living thing; discuss why each image is the odd one out and identify characteristics of living things. <p><i>Additional activity</i></p> <p>Select a familiar living thing, eg plant, insect, fish, dog, frog, and explore the life cycle to find out how it grows and reproduces. Use images to demonstrate the different stages in the life cycle. Students use a scaffold to chart the life cycle of the animal or plant.</p> <p>Describe how the young of some living things are the same as the adult, eg humans, dogs. Other living things have young that are different and change as they grow to become the same as the adult, eg insects, frogs.</p>	<p>Print or digital resources could include:</p> <ul style="list-style-type: none"> visual representations of a range of living and non-living things word labels for a range of living and non-living things classification chart <p>Education World: Life Cycle Chart Template</p>

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<p>Skills – Working Scientifically</p> <p>Questioning and predicting</p> <p>Students question and predict by:</p> <ul style="list-style-type: none"> asking questions about familiar objects and events <p>Communicating</p> <p>Students communicate by:</p> <ul style="list-style-type: none"> presenting ideas and information gathered through a scientific investigation in a variety of forms, using digital technologies as appropriate  <p>Knowledge and Understanding</p> <p>Living World: Structure and Function</p> <p>There are differences within and between living things.</p> <p><i>Features of living things</i></p> <p>Students:</p> <ul style="list-style-type: none"> identify some external features of animals and/or plants classify a variety of living things according to their observable features, eg vertebrates (mammals, reptiles, fish, birds) and invertebrates (insects, spiders, snails)  represent the classification of living things in a variety of ways, eg diagrams and tables   	<p>Classifying animal (vertebrates) groups</p> <p>Teacher background: <i>The images collected of fish, amphibians, reptiles, birds and mammals show some of the structural features that distinguish the vertebrate groups, eg body covering, type of limbs, the type of young produced.</i></p> <p><i>Interactive games can be used to assist students to recognise different groups of vertebrate animals.</i></p> <p>Students sort images according to particular features, such as fur, feathers, type of limbs. This may be done independently, in groups, or as a class. Teacher guidance may be needed.</p> <p>Students recognise and record the different features of animal groups. This may include:</p> <ul style="list-style-type: none"> responding to teacher questioning, eg Does this group have fur? Do the animals in this group have fins? matching features to particular groups labelling groups with features. <p>Teachers may introduce the name of the vertebrate groups (fish, amphibian, reptile, bird and mammal), if appropriate.</p> <p>Additional activities</p> <p>Students:</p> <ul style="list-style-type: none"> use some simple keys to classify a variety of animals complete a print or digital poster or presentation identifying some features of the selected vertebrate group (fish, amphibian, reptile, bird or mammal) play an interactive game to recognise plants, animals, insects, mammals and birds. 	<p>Visual images:</p> <ul style="list-style-type: none"> fish amphibian reptile bird mammal <p>Interactive games:</p> <ul style="list-style-type: none"> Animal Game Science – RPCS Science Kids: Fun science and technology for kids! – Plant & Animal Differences game <p><i>Note that the Science Kids game uses the word ‘mammal’ to represent ‘animals’.</i></p> <p>Activities for classification keys can be found in:</p> <ul style="list-style-type: none"> Konza, D & Woodley, L (2009) <i>Special Education Resources for Teachers: Science</i>, David Barlow Publishing, NSW, pp 60–64 <p>Art-making resources for print poster</p> <p>Multimedia presentation tools, such as:</p> <ul style="list-style-type: none"> PowerPoint Photo Story Movie Maker Animoto <p>Desktop publishing software, such as:</p> <ul style="list-style-type: none"> Microsoft Publisher Paint

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<p>Skills – Working Scientifically</p> <p>Questioning and predicting</p> <p>Students question and predict by:</p> <ul style="list-style-type: none"> asking questions about familiar objects and events <p>Conducting investigations</p> <p>Students conduct investigations by:</p> <ul style="list-style-type: none"> using a range of techniques including practical experiences, surveys, fieldwork and research to gather data and information, using digital technologies as appropriate   working individually and/or collaboratively to participate in an investigation   <p>Processing and analysing data and information</p> <p>Students process and analyse data and information by:</p> <ul style="list-style-type: none"> drawing conclusions from data and information gathered in an investigation  <p>Knowledge and Understanding</p> <p>Living World: Structure and Function</p> <p>There are differences within and between living things.</p> <p><i>Features of living things</i></p> <p>Students:</p> <ul style="list-style-type: none"> identify some external features of animals and/or plants <p>Living things have structures that carry out specialised functions.</p> <p><i>Plants</i></p> <p>Students:</p>	<p>What do plants need?</p> <p>Teacher background: <i>In the following activities, students could be provided with living flowering plants such as weeds or small seedlings. Alternatively, images of plants may be used.</i></p> <p><i>Terrariums containing a variety of small living plants can be constructed from 2-litre PET soft drink bottles. In the investigation involving terrariums, it is important that the containers are sealed so that they are airtight. Once set up, the plants growing in the terrarium recycle the water and air that they produce and use. Place the terrariums in a location with good light, but not in direct sunlight.</i></p> <p>Students participate in conducting an investigation to identify what plants need from their surroundings in order to grow and reproduce. The investigation may take the form of:</p> <ul style="list-style-type: none"> creating and observing a terrarium planting seeds to observe the growth of the plant. <p>Students add information that they have found out from their investigation to the class mindmap on the environment.</p> <p>How do plants get their needs from their surroundings?</p> <p>Students observe a range of types of plants and recognise some of the features common to the plants, eg green colour, leaves, stem.</p> <p>Students observe examples/images of flowering plants and recognise the parts (structures), eg roots, leaf, stem, flower, seeds, fruit. This may be done through:</p> <ul style="list-style-type: none"> responding to teacher questioning, eg Is this the leaf? selecting or matching labels to parts of the plant labelling a plant diagram interactive activities. <p>Students think–pair–share the question ‘What do the different parts of a plant do?’ and brainstorm their initial responses.</p> <p>They collate and record their observations. This could be done through:</p> <ul style="list-style-type: none"> labelling photographs/videos/drawings a cloze passage answering guided questions a written explanation. 	<p>Questacon: Terrarium</p> <p>Science and Technology K–6: Mini-worlds Stage 2, Task 4 – Designing and making a terrarium</p> <p>Science Kids: Fun science and technology for kids! – Plant Seeds & Watch Them Grow experiment</p> <p>Science and Technology K–6: Growing Up Stage 1, Task 6 – What do seeds need to germinate?</p> <p>Plants and/or images of plants</p> <p>Worksheet for identifying parts of the plant:</p> <ul style="list-style-type: none"> Primary Resources Worksheet <p>Interactive activities:</p> <ul style="list-style-type: none"> Science – RPCS (smartboard activities for labelling plants) Plants – Basic Skills Practice Games

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<ul style="list-style-type: none"> observe some structures in plants, eg root, stem and leaf appreciate that the structures in a plant serve a specific function, eg the hardness of a stem provides support and transport of water and nutrients, and leaves absorb light and make food 	<p>Students investigate the function of the roots in taking in water and minerals, and the stem in transporting these to all parts of the plant. The roots of a plant are placed into water coloured with food dye and the plant is left overnight. Students observe where the dye is found throughout the plant.</p> <p>With teacher guidance, students compare their observations with their initial responses. They think–pair–share the question ‘What do plants need from their environment?’ and brainstorm their initial responses.</p> <p>Students collate their responses. They recognise that plants need air, water (containing minerals from the soil) and light from their surroundings.</p>	
<p>Skills – Working Scientifically</p> <p>Questioning and predicting</p> <p>Students question and predict by:</p> <ul style="list-style-type: none"> predicting the outcomes of an investigation using background knowledge, experience and/or scientific understanding ✨ <p>Planning investigations</p> <p>Students plan investigations by:</p> <ul style="list-style-type: none"> working individually and/or collaboratively to record aspects of their plan 🧑🏫 ✨ recognising variables to be changed, kept the same and measured in an investigation <p>Conducting investigations</p> <p>Students conduct investigations by:</p> <ul style="list-style-type: none"> selecting and using appropriate equipment, measuring tools and methods to make accurate observations and measurements 📏 📊 working individually and/or collaboratively to participate in an investigation 🧑🏫 ✨ following safety rules when using equipment and tools in an investigation ✨ recording observations and measurements, using appropriate units and abbreviations 📝 📏 	<p>Conducting a plant investigation: plants in their environment</p> <p>Teacher background: <i>Students plan and conduct a controlled experiment to test a question about plant growth. The investigation method requires two groups of 5–10 seedlings growing in containers. In order to produce valid and reliable results, it is important that only one thing (variable) is changed. In setting up the test, all other variables need to be kept the same, such as the time period for the test, and using plants of the same type, size and approximately the same stage of development.</i></p> <p>Students work in groups to conduct a controlled experiment to investigate how light affects the growth of plants. They identify the question to be investigated: Do plants grow better in more or less light?</p> <p>Use teacher-guided questioning to assist students in planning their investigation. Students consider:</p> <ul style="list-style-type: none"> equipment needed, eg tools, shade cloth, containers/pots, soil, watering can, two containers with 5–10 seedlings growing in each safety aspects, eg masks, gloves what is changed, eg the amount of light each group of plants receives what should be kept the same, eg soil, temperature, type of plants, size and age of plants, how often the plants will be watered, amount of water used the length of time the testing will be conducted, eg four weeks the times when observations and measurements will be made, eg same time each week. <p>Provide each group of students with two trays or ice cream containers, each containing 5–10 growing seedlings. Students identify how they will adjust the light available so that both groups of plants get light, but one group will get more light than the other. Avoid positions where the plants will get too hot. The containers are</p>	<p>Equipment required for the investigation, such as:</p> <ul style="list-style-type: none"> plants soil water containers/trays labels measuring instruments shade cloths (these allow varying amounts of light to pass)

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<p>Processing and analysing data and information</p> <p>Students process and analyse data and information by:</p> <ul style="list-style-type: none"> interpreting data and information gathered  relating data and information gathered to questions and predictions  drawing conclusions from data and information gathered in an investigation  <p>Problem solving</p> <p>Students solve problems by:</p> <ul style="list-style-type: none"> identifying problems that can be investigated scientifically identifying different strategies that could be used to solve a problem  <p>Communicating</p> <p>Students communicate by:</p> <ul style="list-style-type: none"> using a variety of strategies including tables, graphs and diagrams to present data and information, using digital technologies as appropriate   <p>Knowledge and Understanding</p> <p>Living World: Environment</p> <p>Living things depend on each other and the environment.</p> <p>Students:</p> <ul style="list-style-type: none"> recognise that sunlight is a source of energy for plants investigate the needs of living things as they grow, eg the effect of light and water on plants 	<p>labelled to identify whether they are in 'more light' or 'less light'.</p> <p>The amount of light available to the plants could be changed by either:</p> <ul style="list-style-type: none"> placing the containers of plants in different positions in the classroom so that one receives full light and the other low light <p>OR</p> <ul style="list-style-type: none"> placing both containers of plants in the same location, covering one group with shade cloth to reduce the light and leaving the other uncovered to get more light. <p>Students predict which group of plants will grow the best, eg the plants in more light will grow better.</p> <p>Discuss with students how they could observe and measure the growth of the plant, eg height, number of leaves, colour of leaves. Decide on an appropriate method for recording observations and measurements, eg photographs, table or chart.</p> <p>Each group is responsible for caring for their plants during the time the investigation is carried out. A care plan or guide can be created for students to follow. A digital or photographic display could be set up in the classroom to create a sequence for the investigation.</p> <p>Students record their observation and measure the plant growth at the specified times during the period of the investigation. This could be done by taking photographs and using a pre-prepared worksheet or table to ensure that all groups of students are recording the results in the same way.</p> <p>At the end of the investigation period, collate the class results. With guidance, students calculate the mean growth of the plants, eg height, number of leaves. Individually or as a class, graph the results. Students compare the results with their prediction about which plants would grow the best.</p> <p>Students use the class results to develop a conclusion for their investigation, eg the plants grew better in more light. They record their conclusion, which may be done by:</p> <ul style="list-style-type: none"> completing a cloze passage answering guided questions writing a conclusion. <p>With teacher guidance, students brainstorm the question 'Why do plants grow better in more light?'</p>	

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<p>Knowledge and Understanding</p> <p><i>Living World: Structure and Function</i></p> <p>There are differences within and between living things.</p> <p><i>Features of living things</i></p> <ul style="list-style-type: none"> compare the similarities and differences in the needs of living things, eg plants need sunlight and water, animals need food and water <p><i>Living World: Environment</i></p> <p>Living things depend on each other and the environment.</p> <p>Students:</p> <ul style="list-style-type: none"> recognise that living things need food recognise that food is a source of energy for animals recognise that sunlight is a source of energy for plants 	<p>Animals and the environment</p> <p><i>Teacher background:</i> Plants make their own food and use the food they make to grow and reproduce. They use the green colouring in the leaves (chlorophyll) to trap light. Plants use the sun's light (energy) to make food from the water (and minerals from the soil) and the air (carbon dioxide). Students will now look at what animals need from the environment.</p> <p>What do we know about what animals, including humans, need to grow and reproduce? Add responses to the class mindmap on the environment.</p> <p>Where do animals get the things they need to survive?</p> <p>Select a familiar non-domestic animal and explore the needs of that animal, eg seagull, duck, frog, lizard, possum, mouse. Where does the animal live? What sort of shelter does it use? What type of food does it need? Where does it find food? This can be through:</p> <ul style="list-style-type: none"> matching pictures of foods and environments to the animal selecting from a list of foods/environments/shelters completing a cloze passage reading an information report and answering guided questions using research skills to answer set questions or write an informative paragraph. <p>Do animals and plants need different things?</p> <p>Remind students about their investigation into what plants need to grow and reproduce. Students recognise that plants need light to make their food and that animals get their food from plants or other animals.</p> <p>Students think–pair–share the question ‘What do we know about what plants and animals need from their environment?’</p> <p>Students recognise that the environment must provide what plants and animals need to survive and reproduce.</p>	<p>Biology for Kids – kidsbiology.com</p> <p>Needs of living things</p> <p>The Needs of Living Things – School District #42</p> <p>Washoe County School District Social Studies First Grade Units – Lesson 6: What Living Things Need</p>

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<p>Skills – Working Scientifically</p> <p>Communicating</p> <p>Students communicate by:</p> <ul style="list-style-type: none"> using a variety of strategies including tables, graphs and diagrams to present data and information, using digital technologies as appropriate   <p>Knowledge and Understanding</p> <p>Living World: Environment</p> <p>Living things depend on each other and the environment.</p> <p>Students:</p> <ul style="list-style-type: none"> describe a simple food chain, eg plant is food for caterpillar which is food for magpie represent simple food chains in a variety of ways, such as a pictorial representation or flowchart, eg plant → caterpillar → magpie  	<p>Living things depend on each other</p> <p>Teacher background: Plants (producers) are eaten by animals (consumers). Food chains show the feeding relationships between living things in a community. A food chain can be represented with arrows showing the direction that food (therefore energy) moves. The decay of dead plants and animals returns minerals to the soil and these are recycled through the plants into the food chain.</p> <p>Introduce students to simple food chains. Have students draw a table with three columns:</p> <table border="1" data-bbox="786 539 1494 676"> <thead> <tr> <th>Food</th> <th>Food</th> <th>Pets</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>Enter a list of the pets owned by students in the right-hand column. Discuss with students the foods eaten by each animal (responses need to be natural foods, such as 'meat', 'fish', rather than 'dog food', 'cat food'). Students place these foods in the middle column, corresponding with the relevant animal.</p> <p>For foods that are not plants, engage students in further discussion about the animal that is the source of the food, eg meat may be cow, sheep, chicken. Decide on the plant that is consumed by that animal and place this in the left-hand column.</p> <p>Students draw arrows in their table from the left to right to represent 'is eaten by' for each animal, eg:</p> <table border="1" data-bbox="786 991 1494 1235"> <thead> <tr> <th>Food</th> <th>Food</th> <th>Pets</th> </tr> </thead> <tbody> <tr> <td> </td> <td>seeds →</td> <td>budgie</td> </tr> <tr> <td> </td> <td>fruit →</td> <td>parrot</td> </tr> <tr> <td>plant →</td> <td>fish →</td> <td>cat</td> </tr> </tbody> </table> <p>Students construct other simple food chains using words or pictures to represent how food (energy) moves from one living thing to another, eg leaves → beetles → spider → bird.</p>	Food	Food	Pets				Food	Food	Pets		seeds →	budgie		fruit →	parrot	plant →	fish →	cat	<p>Science and Technology K–6: Mini-worlds Stage 2, Task 3 – Investigating the relationships within an environment</p> <p>Science and Technology K–6: Cycles in our World Stage 2, Task 7 – Designing food chains and food webs</p>
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plant →	fish →	cat																		

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<p>Skills – Working Scientifically</p> <p>Conducting investigations</p> <p>Students conduct investigations by:</p> <ul style="list-style-type: none"> working individually and/or collaboratively to participate in an investigation 🧑🏫 ⭐ following safety rules when using equipment and tools in an investigation ⭐ recording observations and measurements, using appropriate units and abbreviations 📏 📊 <p>Problem solving</p> <p>Students solve problems by:</p> <ul style="list-style-type: none"> identifying problems that can be investigated scientifically identifying different strategies that could be used to solve a problem ⚙️ <p>Communicating</p> <p>Students communicate by:</p> <ul style="list-style-type: none"> presenting ideas and information gathered through a scientific investigation in a variety of forms, using digital technologies as appropriate 📱 🖥️ <p>Knowledge and Understanding</p> <p>Living World: Environment</p> <p>Living things depend on each other and the environment.</p> <p>Students:</p> <ul style="list-style-type: none"> describe a simple food chain, eg plant is food for caterpillar which is food for magpie recognise an ecosystem in the local environment identify the relationships between plants and animals within an ecosystem 🌿 participate in an investigation of an ecosystem through constructing and observing an ecosystem 	<p>Caring for our environment</p> <p>Teacher background: Students could be reminded of the living things they identified in their fieldwork at the start of the unit when they investigated a local environment, eg school grounds, pond, park, stream. They could also visit or observe images or video footage of other habitats to recognise the plants and animals in the community.</p> <p>Individually or as a class, create a simple food chain to represent the flow of energy between plants and animals identified in the habitat, eg pond food chain: plant → insect → fish → bird.</p> <p>Discuss with students some scenarios of what might happen if one of the steps in the food chains changes, such as:</p> <ul style="list-style-type: none"> plants died the fish did not reproduce and their numbers decreased the insect numbers increased the birds died. <p>Explore with students some examples of human activities that could cause these scenarios, eg poisons in the water could kill the plants, oil on the water could kill insects or fish, fishing line and plastic bags could kill the birds.</p> <p>Consider the local environment that they observed and the ways in which human activities can impact on the survival of the plants and animals in the area. This may involve:</p> <ul style="list-style-type: none"> recognising the human activities that would occur in the habitat, eg hiking, picnic, swimming, fishing, playing recognising things in the habitat that have been created by humans, eg bridge, playground, path, road, fence. <p>Discuss the impact of these activities on the habitat, eg litter, noise, removing or destroying parts of the habitat, reducing shelter and food, polluting the air and water</p> <p>What can we do to protect our environment?</p> <p>Students participate in activities that assist in protecting and conserving a local environment, eg removing litter, planting trees.</p> <p>Students create a community awareness campaign to preserve the local habitat, using print or digital resources. This may involve:</p> <ul style="list-style-type: none"> a poster 	<p>Science and Technology K–6: Environment Matters Stage 3, Task 3 – Investigating the effect of the environment on organisms living in different communities</p>

Content	Teaching, learning and assessment	Resources
<p>or experiencing an existing ecosystem</p> <ul style="list-style-type: none"> • identify how a particular habitat in the local environment is used by plants and animals <p>Human activity can affect how an ecosystem functions.</p> <p>Students:</p> <ul style="list-style-type: none"> • engage with an ecosystem to recognise the effects of particular waste, eg plastic bags and bottles in the school environment, fishing lines and hair ties in rivers and streams, and oil and grease in drains 🌿🗑️ • respond to ways to reduce the effect of waste on an ecosystem, eg putting rubbish in the bin, using biodegradable detergents and plastics, and exploring alternatives to dumping oil and grease into drains that feed rivers and streams 🌿👥 • explore positive and negative changes to the environment as a result of human activity, eg building cities, farms and roads, fishing or pollution 🌿🏠⚖️ • participate in and/or investigate caring for an ecosystem, eg planting trees or constructing fences to protect the habitat 🌿👥 	<ul style="list-style-type: none"> • an information booklet • a multimedia presentation • a television/radio commercial. <p>Students reflect on what they have learnt about the environment and add to the class mindmap.</p>	