



## SAMPLE TEACHING AND LEARNING OUTLINE

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**SCIENCE**  
**BIOLOGICAL SCIENCES**  
**YEAR 4**

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Any resources such as texts, websites and so on that may be referred to in this document are provided as examples of resources that teachers can use to support their teaching and learning programs. Their inclusion does not imply that they are mandatory or that they are the only resources relevant to the learning area syllabus

## Science understanding

Living things have life cycles

Living things depend on each other and the environment to survive

Week	Syllabus content	Lesson content	Suggested resources
1–2	<p><b>COMMUNICATING</b></p> <p>Represent and communicate observations, ideas and findings using formal and informal representations</p> <p><b>NATURE AND DEVELOPMENT OF SCIENCE</b></p> <p>Science involves making predictions and describing patterns and relationships</p>	<p><b>Animal Life Cycles</b></p> <ul style="list-style-type: none"><li>• Sequence various animal life cycles – butterfly, ladybird, dragonfly, mealworm</li><li>• Develop an understanding of various stages and appropriate terminology</li><li>• Identify similarities and differences of different animals during the cycles</li><li>• Relationship between the foods that animals eat during different stages of their life, e.g. leaves for caterpillars and nectar for butterflies</li></ul>	<p>ScienceWeb Australia (resources and student activities) <a href="http://scienceweb.asta.edu.au/years-3-4/unit2/lesson-three/yr34-unit-2-lesson-3.html">http://scienceweb.asta.edu.au/years-3-4/unit2/lesson-three/yr34-unit-2-lesson-3.html</a></p> <p>Monarch Butterfly Metamorphosis time-lapse video <a href="https://www.youtube.com/watch?v=ocWgSgMGxOc">https://www.youtube.com/watch?v=ocWgSgMGxOc</a></p> <p>Amazing Life Cycle of a Monarch Butterfly <a href="https://www.youtube.com/watch?v=7AUeM8Mbalk">https://www.youtube.com/watch?v=7AUeM8Mbalk</a></p>

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3–6	<p><b>QUESTIONING AND PREDICTING</b></p> <p>With guidance, identify questions in familiar contexts that can be investigated scientifically and make predictions based on prior knowledge</p> <p><b>PLANNING AND CONDUCTING</b></p> <p>With guidance, plan and conduct scientific investigations to find answers to questions, considering the safe use of appropriate materials and equipment</p> <p>Consider the elements of fair tests and use formal measurements and digital technologies as appropriate, to make and record observations accurately</p> <p><b>PROCESSING AND ANALYSING DATA AND INFORMATION</b></p> <p>Use a range of methods, including tables and simple column graphs to represent data and to identify patterns and trends</p> <p>Compare results with predictions, suggesting possible reasons for findings</p> <p><b>EVALUATING</b></p> <p>Reflect on investigations, including whether a test was fair or not</p>	<p><b>Plants</b></p> <ul style="list-style-type: none"><li>• Labelling parts of a plant</li><li>• Labelling parts of a flower</li><li>• Understanding the functions of parts of a plant</li><li>• Exploring a plant's dependence on sunlight</li><li>• Needs of plants (including nutrients from soil – exploring how sand and soil are different)</li><li>• Fruit and vegetables – the need for pollination, the role of insects. What happens when bees do not pollinate flowers or cross-pollinate?</li><li>• Plant life cycles – how seeds germinate and grow</li></ul> <p><b>INVESTIGATION IDEAS</b></p> <ul style="list-style-type: none"><li>• Germinating seeds of different sizes: which one will germinate first?</li><li>• Decide the criterion for plant germination, seed splitting, first leaf/stem</li><li>• Plant seeds in different soil types – playground sand, oval sand, gravel and soil</li><li>• Change a plant's light conditions – full sunlight, filtered light and darkness</li></ul>	<p>Life cycle of a flowering plant <a href="http://www.bbc.co.uk/bitesize/ks2/science/living_things/plant_life_cycles/read/3/">http://www.bbc.co.uk/bitesize/ks2/science/living_things/plant_life_cycles/read/3/</a></p> <p>Photosynthesis <a href="http://sheppardsoftware.com/content/animals/kidscorner/foodchain/photosynthesis.htm">http://sheppardsoftware.com/content/animals/kidscorner/foodchain/photosynthesis.htm</a></p> <p>Easy Science for Kids Pollination and Fertilisation of Plants <a href="http://easyscienceforkids.com/all-about-pollination/">http://easyscienceforkids.com/all-about-pollination/</a></p> <p>Australian Museum (bee and pollination videos) <a href="https://australianmuseum.net.au/bee-scene1">https://australianmuseum.net.au/bee-scene1</a></p> <p>Photosynthesis: How Plants Make Food and Energy? <a href="http://easyscienceforkids.com/all-about-photosynthesis/">http://easyscienceforkids.com/all-about-photosynthesis/</a></p>

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7–8	<p><b>QUESTIONING AND PREDICTING</b></p> <p>With guidance, identify questions in familiar contexts that can be investigated scientifically and make predictions based on prior knowledge</p>	<p><b>Food chains</b></p> <ul style="list-style-type: none"> <li>Human and animal dependence on the environment</li> <li>Animal dependence on plants (for food), and plant dependence on animals (for various things)</li> <li>Food chains, looking at various possibilities and scenarios</li> </ul>	<p>Food chains  <a href="http://sheppardsoftware.com/content/animals/kidscorner/foodchain/foodchain.htm">http://sheppardsoftware.com/content/animals/kidscorner/foodchain/foodchain.htm</a></p> <p>Ecosystems, Food Chains and Food Webs  <a href="http://www.ducksters.com/science/ecosystems/food_chain_and_web.php">http://www.ducksters.com/science/ecosystems/food_chain_and_web.php</a></p>
9–10	<p><b>USE AND INFLUENCE OF SCIENCE</b></p> <p>Science knowledge helps people to understand the effect of their actions</p>	<ul style="list-style-type: none"> <li>Plants and animals in our immediate environment and how they depend on each other to survive</li> <li>What happens when our dogs and cats kill bush animals?</li> <li>Australian flora and fauna and the impact that we have as a greater community/country</li> </ul>	<p>ScienceWeb Australia  <a href="http://scienceweb.asta.edu.au/years-3-4/unit2/lesson-five/yr34-unit-2-lesson-5.html">http://scienceweb.asta.edu.au/years-3-4/unit2/lesson-five/yr34-unit-2-lesson-5.html</a></p> <p>BTN (varied articles available via link)  <a href="http://search.abc.net.au/search/search.cgi?query=habitat+loss&amp;collection=btn_meta&amp;scope=btn%2Fstory&amp;num_ranks=25">http://search.abc.net.au/search/search.cgi?query=habitat+loss&amp;collection=btn_meta&amp;scope=btn%2Fstory&amp;num_ranks=25</a></p>