

# Science and Technology: Life Cycles

**Early Stage 1**

**Duration: 10 weeks**

## Unit context

Students will develop their knowledge and understanding of living things and investigate the life cycle and habitat of an animal.

## Target outcomes

A student:

- STe-1VA** shows interest in and enthusiasm for science and technology, responding to their curiosity, questions and perceived needs, wants and opportunities
- STe-4WS** explores their immediate surroundings by questioning, observing using their senses and communicating to share their observations and ideas
- STe-8NE** identifies the basic needs of living things

## Unit overview

Students will extend their understanding of observable features, change and growth of living things to the concept of life cycles, as they investigate the life cycle of a frog. Students will design and create a habitat for a frog.



Content – Skills (Working Scientifically and Working Technologically)	Content – Knowledge and Understanding	Suggested teaching, learning and assessment experiences (include evidence of learning)
<p><b>Working Scientifically</b> <b>STe-4WS</b> explores their immediate surroundings by questioning, observing using their senses and communicating to share their observations and ideas</p> <p><b>Working Technologically</b> <b>STe-5WT</b> uses a simple design process to produce solutions with identified purposes</p>	<p><b>STe-7NE</b> observes, using their senses, how daily and seasonal changes in the environment affect them and other living things</p> <p><b>STe-8NE</b> identifies the basic needs of living things</p>	<p><b>Inquiry 1 – Living things</b> Students develop collages of living and non-living things.</p> <p><b>Engage</b> <b>Question:</b> What do you know about living things? Brainstorm different living things.</p> <p><b>Explore:</b> Can you identify living and non-living things in the school playground? Evidence activity – what evidence do we use to find living things e.g. Sound activity – frogs and birds, colours, movement, droppings..... Take photos and label their location. Discuss what students observed. Use the frog sounds and camera in Central Coast Council’s Early Childhood Edition of the Wetlands Multi-Touch Book available on the iBookstore.</p> <p><b>Explain</b> What do you look for when deciding whether something is living or non-living?</p> <p><b>Elaborate</b> Why were living things found in some parts of the playground and not others?</p> <p><b>Evaluate</b> Using printed photographs or pictures from magazines, students create collages of living and non-living things.</p>
		<p><b>Inquiry 2 – Staying Alive</b> General survey of the school playground - Students go outside to look for places where animals</p>



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		<p>might live. E.g. Where do ants live, where do birds live, where do lizards live?</p> <p>(Possible – provide a map and students mark on the map where they found the shelter)</p> <p>Game option – students are given an animal tag and have to find the things that they need (setting up cards at different locations in playground)</p> <p>Use the habitat match activity in Central Coast Council’s Early Childhood Edition of the Wetlands Multi-Touch Book available on the iBookstore.</p> <p>Students create mind maps showing the needs of a selected animal and the needs of themselves.</p> <p><b>Engage</b></p> <p><b>Question:</b></p> <p>What do you need to stay alive? Create a class list.</p> <p><b>Explore:</b></p> <p>Why do you think you need those things? (Discussion point: Does size make a difference?) Using class list.</p> <p><b>Explain</b></p> <p>What do you think would happen if you didn’t have those things?</p> <p><b>Elaborate</b></p> <p>How do living things including people get what they need to survive?</p> <p><b>Evaluate</b></p> <p>Students create mind maps showing the needs of a selected animal and the needs of themselves.</p> <p><b>References (picture books)</b></p> <p><i>One Less Fish</i> by Kim Michelle Toft</p>



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		<i>Above and Below</i> by Hanako Clulow
		<p><b>Inquiry 3 – The needs of one animal</b></p> <p>Students create a collage using a variety of different materials that represent the things frogs (or other selected animal) need.</p> <p><b>Engage</b></p> <p><b>Question:</b></p> <p>What do you know about frogs? Introduce the life cycle of a frog.</p> <p><b>Explore:</b></p> <p>What do frogs need to survive at the different stages of their life cycle?</p> <p><b>Explain</b></p> <p>What do you think would happen to a frog if it didn't have these things at each stage of its life cycle e.g. death, migration, adaptation or delayed reproduction.</p> <p><b>Elaborate</b></p> <p>If you were designing a habitat for a frog, what would it look like? Take the students outside to create a model frog habitat using materials such as grass, sand, rocks, sticks and water.</p> <p><b>Evaluate</b></p> <p>Students:</p> <ul style="list-style-type: none"> <li>• Create a collage representing a habitat that has all the things that a frog needs at each stage of its life cycle.</li> <li>• Students write about their collage or model, explaining the features and why they chose the materials.</li> </ul> <p><b>References</b></p> <p><i>Desert Lake the Story of Kati Thanda Lake Eyre</i> by Pamela Freeman</p>



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		Use the frog life cycle activity in Central Coast Council’s Early Childhood Edition of the Wetlands Multi-Touch Book available on the iBookstore.
•		<p><b>Inquiry 4 – Real habitats</b></p> <p>Students complete a <b>KNW Chart</b> about frogs and their habitat.</p> <p><b>Engage</b></p> <p><b>Question:</b></p> <p>Where are real frog habitats found? Where are some real frog habitats found on the Central Coast of NSW? For example Porters Creek Wetland, Avoca Lagoon, school frog pond.</p> <p>Look at examples of these wetlands in Central Coast Council’s Primary Edition of the Wetlands Multi-Touch Book available on the iBookstore.</p> <p><b>Explore:</b></p> <p>Site visit: Explore a local pond or wetland that may have tadpoles and/or frogs. Create a <b>Y Chart</b> during your visit and also sketch the habitat.</p> <p><b>Explain</b></p> <p>Students present an interesting fact from their visit.</p> <p><b>Elaborate</b></p> <p>Compare the habitat you visited with the one you created as a collage. What other animals could live in this habitat?</p> <p><b>Evaluate</b></p> <p>Complete a <b>KNW Chart</b> as a class or individually.</p>

