

Science and Technology: Living Things / Plants

Stage 1

Duration: 10 weeks

Unit context

Students will investigate living things focusing on plant life. They will develop their knowledge and understanding of the life cycle of a plant and the ways that changes in the environment can affect these life cycles. Students will apply this knowledge to helping them investigate Wetland plant life.

Target outcomes

A student:

ST1-1VA shows interest in and enthusiasm for science and technology, responding to their curiosity, questions and perceived needs, wants and opportunities

ST1-4WS investigates questions and predictions by collecting and recording data, sharing and reflecting on their experiences and comparing what they know.

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.

Unit overview

Students will extend their understanding of observable features, change and growth of living things to the concept of the life cycles of plant life, as they observe first-hand the stages in the life cycle of a plant. Student will prepare seeds for germination that will be monitored throughout the unit. It would be preferable to begin observations of the life cycle early in the unit, to provide time and opportunity for students to observe the entire cycle first-hand. If it is not possible to complete the observation of the life cycle (e.g. due to time constraints or season), students could use a variety of secondary sources to gather information to show how the life cycle progresses.



Content – Skills (Working Scientifically and Working Technologically)	Content – Knowledge and Understanding	Suggested teaching, learning and assessment experiences (include evidence of learning)
<p>Working Scientifically ST1-4WS investigates questions and predictions by collecting and recording data, sharing and reflecting on their experiences and comparing what they and others know</p> <p>Working Technologically ST1-5WT uses a structured design process, everyday tools, materials, equipment and techniques to produce solutions that respond to identified needs and wants</p>	<p>ST1-9ES identifies ways that people use science in their daily lives to care for the environment and the Earth's resources (water)</p> <p>Observable changes occur in the sky and landscape. (ACSSU019)</p> <p>Students:</p> <ul style="list-style-type: none"> • use a range of methods to describe observable, short-term changes in the sky, e.g. clouds, the appearance of the stars at night and the position of the sun during the day • observe and record environmental changes that occur over a longer time to identify patterns of events, e.g. seasonal changes in temperature and the appearance of the moon • describe some physical features of a landscape that have been changed by floods, droughts or processes, e.g. weathering and erosion <p>Earth's resources, including water, are used in a variety of</p>	<p><i>In stage 1 – you could also do Primary Connections Water Works (relates to ST1-9ES) and also Watch It Grow (Biological Sciences - related to ST1-10LW). Primary Connections Units are available on Scootle.</i></p> <p>Teacher Background</p> <p><i>This unit builds on work done in ES1 on what living things need. Teachers should revisit these elements and introduce the new concept of life cycles – eg. Frog, dragonfly. Reference could be made to living things in your area – provide examples of plants, animals and habitats. Use the frog and bird life cycle activities in Central Coast Council's Early Childhood Edition of the Wetlands Multi-Touch Book available on the iBookstore.</i></p> <p>Inquiry 1 – Living things</p> <p>Students identify plant features, locate different plants in their playground, investigate life cycles and record data.</p> <p>Engage</p> <p>Question:</p> <p>Why do we need plants? Record on a KNW Chart.</p> <p>Explore:</p> <p>Go outside and take photos of plants in the school grounds and record where they were found. Also, Discuss what students observed.</p> <p>Explain</p> <p>In small groups, identify 3 different plants and describe their features - including the parts of a plant (e.g. Trunk, branch, leaf, bark.....) and height, leaf shape, flowers.</p> <p>Sketch and label 3 selected plants using the plant sketch activity in Central Coast Council's Primary Edition of the Wetlands Multi-Touch Book available on the iBookstore.</p>



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	<p>ways. (ACSSU032)</p> <p>Students:</p> <ul style="list-style-type: none"> • identify that some common resources are obtained from the Earth, including soil, minerals and water • describe how some materials obtained from the Earth are used in a range of products at home or at school • share their observations and ideas about the ways that water is used by people in their daily lives • identify some actions which could be taken to care for and use water sustainably, e.g. turning off dripping taps and/or taking shorter showers • explore ways in which people use science knowledge and skills in their daily lives to care for the environment and use resources sustainably. <p>ST1-10LW describes external features, changes in and growth of living things</p>	<p>Elaborate</p> <p>Plants and animals have different life cycle stages – do a survey in the school grounds to identify animals in different lifecycles (eg. Flowers, eggs on leaves, cicada shells, gumnuts, seedlings). Create a pictograph of your results.</p> <p>Use the plant life cycle activity in Central Coast Council’s Primary Edition of the Wetlands Multi-Touch Book available on the iBookstore.</p> <p>Evaluate</p> <p>Each group presents their findings to the class.</p> <p><i>Resource: The night of the bilby</i> http://www.scootle.edu.au/ec/viewing/L908/index.html</p>



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	<p>ST1-11LW describes ways that different places in the environment provide for the needs of living things</p>	
		<p>Option: Life Cycle Game / Metamorphosis Game</p> <p>This game offers a good way to teach students about life cycles. The game includes four stages: egg, caterpillar, chrysalis (cocoon), and butterfly.</p> <p>In this game, students act out each transformation:</p> <ol style="list-style-type: none"> 1. Everyone starts off as an egg and crouches down 2. Each student plays rock-paper-scissors with another student who is in the same stage. The winner progresses to the next stage! The student who does not win goes back a stage. Both students find another person in their stage to continue moving through the series 3. In the caterpillar stage, each student inches along the floor in a modified bear crawl 4. In the chrysalis stage, each student spins around with arms crossed across their chest 5. In the butterfly stage, each student flies (slowly) with their “wings” outstretched 6. After reaching the butterfly stage, each student becomes an egg again so the game can keep going <p>https://healthyschoolscampaign.org/chicago-focus/physical-activity-break-wellness-and-fun-with-the-metamorphosis-game-6385/</p>



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		<p>Note: Prior to this inquiry, students will need to prepare seeds for germination that can be monitored throughout.</p> <p>Inquiry 2 – How plants grow</p> <p>Students conduct an investigation and conduct their findings in a report (style of their choosing).</p> <p>Engage</p> <p>Question:</p> <p>What do plants need to germinate and stay alive?</p> <p>Explore:</p> <p>Investigation: Students monitor and record changes to their seed over time using notes, photographs and sketches.</p> <p>Explain</p> <p>Each lesson, students will explain the changes observed over time in their investigation.</p> <p>Elaborate</p> <p>Each lesson, students will predict the next stage of their investigation.</p> <p>Evaluate</p> <p>Present the findings of your investigation as a report.</p>
		<p>Inquiry 3 – Wetland plants</p> <p>Students create an annotated photograph of a wetland plant.</p> <p>Engage</p> <p>Question:</p>



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		<p>What is a wetland? Are there different types of wetlands?</p> <p>Explore:</p> <p>What types of plants can survive in wetlands? E.g. Reeds, algae, mangroves, paperbark trees. Investigate and collect images of wetland plants and categorise the plants identified. Use the plant section in Central Coast Council's Primary Edition of the Wetlands Multi-Touch Book available on the iBookstore.</p> <p>Explain</p> <p>What conditions do different plants need in a wetland? Example, always wet, sometimes dry. Choose two or three plants.</p> <p>Elaborate</p> <p>Why are these plants important? For example habitat, food, oxygen.</p> <p>Evaluate</p> <p>Students create an annotated photograph showing the plants features, needs and importance.</p>

