



Who's Bugging Who? | Living World Excursion | Stage 2 | Science and Technology K-6

Summary	Duration
<p>This excursion addresses outcomes from the NSW Science and Technology K-6 Syllabus.</p> <p><i>Knowledge and Understanding strand</i> - Natural Environment</p> <p><i>Substrand</i> - Living World</p> <p><i>Content addressed</i> – Life cycles, Relationships between living things, Features of environments.</p> <p>It provides opportunities for students to engage in their natural world through a range of hands-on activities, observing and questioning while learning about living things in their natural habitat.</p> <p>The teaching and learning activities provide students with the opportunities to develop improved visual and scientific literacy.</p>	<p>4 hour on-site excursion to Longneck Lagoon EEC</p> <p>Arrival time: 10 am</p> <p>Departure time: 2 pm</p> <p>Arrival and departures times are guides only. Distance and bus schedules may require modifications to the timetable.</p> <hr/> <p>About Longneck Lagoon</p> <p>Longneck Lagoon Environmental Education Centre is located in Scheyville National Park and includes a terrestrial environment (Cumberland Plain Woodland) and an aquatic environment (lagoon and creek).</p>





Outcomes	Unit overview	Key concepts
<p>Science & Technology K-6</p> <ul style="list-style-type: none"> › ST2-10LW describes that living things have life cycles, can be distinguished from non-living things and grouped, based on their observable features. › ST2-4WS investigates their questions and predictions by analysing collected data, suggesting explanations for their findings, and communicating and reflecting on the processes undertaken. › ST2-1VA shows interest in and enthusiasm for science and technology, responding to their curiosity, questions and perceived needs, wants and opportunities. › ST2-2VA demonstrates a willingness to engage responsibly with local, national and global issues relevant to their lives, and to shaping sustainable futures. 	<p>Students:</p> <ul style="list-style-type: none"> ▪ show an interest in science and technology by responding to questions, perceived needs and wants ▪ describe the features of and ways in which living things grow and change, and how living things depend on places in their environment to meet their needs ▪ suggest ways that science and technology can help people care for the environment and shape sustainable futures ▪ show curiosity about the Natural Environment and the Made Environment ▪ safely and carefully manipulate available tools, materials and equipment. 	<p>Different living things have different life cycles.</p> <p>Identify ways the environment can affect living things.</p> <p>Some plants and animals depend on each other for survival.</p>



Learning across the curriculum	Quality Teaching
<p><i>Cross-curriculum priorities enable students to develop understanding about and address the contemporary issues they face.</i></p> <p>Sustainability is concerned with the ongoing capacity of the Earth to maintain all life. It provides authentic contexts for exploring, investigating and understanding systems in the natural and made environments. Relationships, cycles and cause and effect are explored, and students develop observation and analytical skills to examine these relationships in the world around them to design solutions to identified sustainability problems.</p>	<p>Intellectual Quality</p> <p>Metalinguage - using and explaining scientific language and identifiers</p> <p>Substantive Communication - sustained and reciprocal communication throughout the lesson</p> <p>Quality Learning Environment</p> <p>Engagement - sustained interest, attentiveness and focus on the tasks at hand</p> <p>High Expectations - learning important knowledge and skills of a challenging nature</p> <p>Students' Self-Regulation - activities are purposeful and interesting resulting in low levels of interruption and high levels of initiative</p> <p>Significance</p> <p>Background Knowledge - opportunities to make connections between their knowledge and experience and the content of the lesson</p> <p>Connectedness - content has meaning beyond the classroom and the site</p>





Content	Teaching & learning activities
<p>Stage 2 - Living World</p> <p>Living things have life cycles</p> <ul style="list-style-type: none"> observe first-hand one animal or plant as it grows and develops, and sequence the stages in its life cycle identify ways that the environment can affect the life cycle of plants and animals. <p>Living things, including plants and animals, depend on each other and the environment to survive.</p> <ul style="list-style-type: none"> identify some factors in the local environment that are needed by plants and animals for survival. <p>Stage 2 - Working Scientifically</p> <p>Students question and predict by:</p> <ul style="list-style-type: none"> using curiosity, prior knowledge, experiences and scientific information with guidance, identifying questions in familiar contexts that can be investigated scientifically. 	<p>Following a welcome to the Centre and Acknowledgement of Country students will rotate through a series of activities designed to meet the outcomes identified above.</p> <p>The activities may vary depending on weather conditions.</p> <p>Water Bugs (approx 50 mins)</p> <p><i>Introduction</i></p> <ul style="list-style-type: none"> what is a water bug, characteristics of the aquatic ecosystem - what creatures might live in, around and on top of the water, types of habitat. <p><i>Set up and demonstration</i></p> <ul style="list-style-type: none"> how to dipnet safely and transfer what they have caught. <p><i>Fun and Action in the Pond!</i></p> <ul style="list-style-type: none"> collect as many different types of water bugs as they can discuss their different habitats within/around the water. <p>Let's be a scientist (approx 60 mins)</p> <p><i>Introduction and demonstration</i></p> <ul style="list-style-type: none"> how to use a stereo microscope. <p><i>Investigation</i></p> <ul style="list-style-type: none"> use microscopes to observe characteristics of specimens and identify using ID charts learn about the lifecycle, special adaptations and inter-relationships between species using the flexi camera and smartboard. <p><i>Reflection</i></p> <ul style="list-style-type: none"> What is needed to keep the habitat happy and healthy for our water bugs? Why are water bugs important?



Content	Teaching & learning activities
<p>Stage 2 - Speaking and listening 1</p> <p>Develop and apply contextual knowledge</p> <ul style="list-style-type: none"> ▪ interpret ideas and information in spoken texts and listen for key points in order to carry out tasks and use information to share and extend ideas and information. 	<p>Bush Bug Investigation (approx 50 mins)</p> <p><i>Introduction</i></p> <ul style="list-style-type: none"> ▪ What is a bush bug? Where do they live and what do they look like? How are they alike or different? ▪ Why are bugs important? <p><i>Activity</i></p> <ul style="list-style-type: none"> ▪ Habitat walk. ▪ Observe, describe and match resin bugs to images. ▪ Classify resin bugs according to observable features. <p><i>Sharing of findings and reflection</i></p> <p>Discuss the survival needs of bush bugs. What is needed to keep the habitat happy and healthy for our bush bugs? Why are bush bugs important?</p> <p><i>Unfavourable weather alternatives</i></p> <p>In the event of extremely wet or windy weather, alternate activities will be provided. These may include:</p> <ul style="list-style-type: none"> ▪ viewing bush and water bugs in resin through magnifiers ▪ a range of visual and creative art activities such as model making, leaf and bark rubbing/printing ▪ digital activities on the smartboard.



Useful links or resources

Identify an invertebrate

http://www.ento.csiro.au/education/key/couplet_01.html

Information about minibeasts

<http://www.minibeastwildlife.com.au/What%20is%20a%20minibeast.htm>

Fact sheets about different insects

http://www.bugsed.com/fact_sheets/index.html