

Summary	Duration
<p>This program is written for Stage 2 "The Earth's Environment". It is a Geographical Inquiry, enabling students to work through the 3 stages of inquiry; Acquiring, Processing and Communicating Geographical Information. Students use many Geographical Tools, with a particular focus on Fieldwork.</p> <p>The program is well scaffolded to enable teachers to deliver engaging, quality content with support from Brewongle Environmental Education Centre.</p>	<p>Sample term</p> <p>6 weeks</p> <p>Detail: Fieldwork Day</p>

Key inquiry questions

- How does the environment support the lives of people and other living things, for example the Tawny Frogmouth?
- How can people use places and environments more sustainably?

Outcomes

Geography K-10

- › GE2-1 examines features and characteristics of places and environments
- › GE2-2 describes the ways people, places and environments interact
- › GE2-4 acquires and communicates geographical information using geographical tools for inquiry

Geographical concepts	Geographical inquiry skills	Geographical tools
<p>Place: <i>the significance of places and what they are like</i> e.g. characteristics of places.</p> <p>Space: <i>the significance of location and spatial distribution, and ways people organise and manage spaces that we live in</i> e.g.; how people organise and manage spaces in their local environment.</p> <p>Environment: <i>the significance of the environment on human life, and the important interrelationships between humans and the environment</i> e.g. how the environment influences people and places; how people influence the environment; the effect of natural disasters on the environment.</p> <p>Interconnection: <i>no object of geographical study can be viewed in</i></p>	<p>Acquiring geographical information</p> <ul style="list-style-type: none"> ▪ develop geographical questions to investigate ▪ collect and record relevant geographical data and information, for example, by observing, by interviewing, conducting surveys, or using maps, visual representations, the media or the internet. <p>Processing geographical information</p> <ul style="list-style-type: none"> ▪ represent data by constructing tables, graphs and maps ▪ represent information by constructing large-scale maps that conform to cartographic conventions, using spatial technologies as appropriate ▪ interpret geographical data to identify distributions and patterns and draw conclusions 	<p>Maps - M</p> <ul style="list-style-type: none"> ▪ large-scale maps, world map, globe, sketch maps ▪ maps to identify location, direction, distance, map references spatial distributions and patterns <p>Fieldwork - F</p> <ul style="list-style-type: none"> ▪ observing, measuring, collecting and recording data, conducting surveys and interviews ▪ fieldwork instruments such as measuring devices, maps, photographs <p>Graphs and statistics - GS</p> <ul style="list-style-type: none"> ▪ tally charts, pictographs, data tables, column graphs, simple

<p><i>isolation e.g. how environments influence where people live; ways people influence the characteristics of their environments.</i></p> <p>Scale: <i>the way that geographical phenomena and problems can be examined at different spatial levels e.g. environmental and human characteristics of places on local and regional scales; the effect of events on people and places locally and regionally.</i></p> <p>Sustainability: <i>the capacity of the environment to continue to support our lives and the lives of other living creatures into the future e.g. extent of environmental change; environmental management practices; sustainability initiatives.</i></p>	<p>Communicating geographical information</p> <ul style="list-style-type: none"> present findings in a range of communication forms reflect on their learning to propose individual action in response to a contemporary geographical challenge and identify the expected effects of the proposal 	<p>statistics</p> <p>Spatial Technologies - ST</p> <ul style="list-style-type: none"> virtual maps, satellite images, global positioning systems (GPS) <p>Visual representations - VR</p> <ul style="list-style-type: none"> photographs, illustrations, diagrams, story books, multimedia, web tools.
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<p>Unit overview</p> <p>A geographical investigation and mystery all rolled into one.</p> <p>Brewongle needs a CSI team! A terrible crime has been committed and you have been assigned as the chief investigator.</p> <p>Students are presented with information regarding the mysterious death of a Tawny Frogmouth. They must conduct a thorough investigation into the three essential components for life - water, food and shelter. In doing so, students will develop deep knowledge and understanding about the interconnectedness of all aspects of the environment. They will gain understanding of the interactions between people and the environment. Students will also develop knowledge and understanding about key environmental concepts and develop the skills to undertake the process of geographical inquiry.</p> <p><i>This Geographical Inquiry will focus on the connections between people and nature at Brewongle Environmental Education Centre and its surrounds, focusing on the Tawny Frogmouth as a case study.</i></p>
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Content	Teaching, learning and assessment
<p>Stage 2 - The Earth's Environment</p> <p>Content</p> <p>Significance of environments</p> <p>Students:</p> <ul style="list-style-type: none"> investigate the importance of natural vegetation and natural resources to the environment, animals and people, for example: (ACHGK021, ACHGK022, ACHGK024) identification of types of natural vegetation eg forests, grasslands, deserts  explanation of the importance of natural vegetation to animals and the functioning of the environment eg provision of habitats, production of oxygen    	<p>Student-centred inquiry into the contemporary land use, biodiversity and human impacts</p> <p>Students investigate the natural environment around Brewongle Environmental Education Centre, investigating the mysterious death of Brewongle's resident Tawny Frogmouth.</p> <p>Note: This learning and teaching sequence will evolve into a geographical inquiry project which demonstrates different examples of the significance of natural environments and how we can protect them.</p> <p>ACQUIRING Geographical Information</p> <p>Tawny Tragedy Pre-Visit Questions</p> <p>http://australianmuseum.net.au/tawny-frogmouth</p> <p>http://www.parks.tas.gov.au/index.aspx?base=24031</p> <p>https://brewongleec.com/resources/stage-3-resources/tawny-tragedy/</p>

Content	Teaching, learning and assessment
<p>– discussion of the importance of natural vegetation and natural resources to people eg provision of food, medicine, fuel, timbers, fibres, metals  </p> <p>Protection of environments</p> <p>Students:</p> <ul style="list-style-type: none"> ▪ investigate sustainable practices that protect environments, including those of Aboriginal and Torres Strait Islander Peoples, for example: (ACHGK023, ACHGK024, ACHGK025)   – examination of how environments can be used sustainably eg sustainable agricultural, commercial and recreational practices  – discussion of ways waste can be managed sustainably    	<ol style="list-style-type: none"> 1. Use the information found in the video and in the links provided on our website and write a paragraph describing the Tawny Frogmouth. 2. What do Tawny Frogmouths eat? 3. What type of habitat do Tawny Frogmouths live in? 4. What is the main threat to Tawny Frogmouths? 5. Can you think of another threat? 6. Read the Police Report found on the Brewongle website. Make a hypothesis about Tawnys cause of death. Provide evidence for (justify) your hypothesis. <p>Excursion - Significance of environments</p> <p>Students investigate possible causes of the bird's death using known facts from the police report as a reference point. <i>They will identify types of natural vegetation, explain its importance to animals and the functioning of the environment. Students will discuss the importance of natural vegetation and natural resources to people.</i></p> <p><i>Food</i></p> <p>Mr Atkins had seen the bird feeding in the forest and Mr Edwards had seen the bird feeding in and around the house.</p> <p>We know that the bird's favourite foods were insects and antechinus.</p> <ul style="list-style-type: none"> ▪ Check the animal trap left in the forest for evidence of other species. ▪ Conduct soil tests on ph, leaf litter depth and soil moisture. ▪ Discover what possible food sources the moths and antechinus could have eaten around the house. ▪ List all the items found around the house. ▪ Record findings <p><i>Water</i></p> <p>Mrs Gough saw the bird drinking from the ponds.</p> <ul style="list-style-type: none"> ▪ Test water quality for turbidity, temp, Oxygen, pH and salinity. ▪ Dipnet in the ponds to ascertain whether or not there is life in the water. ▪ Record findings <p><i>Shelter</i></p> <p>Mrs Brown had seen strange footprints and Mr Atkins had mentioned feral animals.</p> <ul style="list-style-type: none"> ▪ <i>Habitat Assessment:</i> Assess whether or not there are sufficient trees of varying ages, shrubs and ground covers. ▪ <i>Sketch Footprints:</i> Sketch four footprints found in the mud for later identification. ▪ <i>Identify</i> plants and animals

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	<p><i>Conclusion</i></p> <ul style="list-style-type: none"> ▪ Discuss their suspicions and reasons using recorded findings and the forensic results reported. <p>PROCESSING Geographical Information</p> <p>Post-Visit Lessons - Protection of environments</p> <p><i>Students will investigate sustainable practices that protect environments and discuss ways waste can be managed.</i></p> <ol style="list-style-type: none"> 1. Conduct an audit of the chemicals and waste found around your home and identify ways to manage these sustainably. 2. Use information from the websites below to create a timeline of the introduction and impacts of foxes in Australia. http://www.dpi.nsw.gov.au/content/agriculture/pests-weeds/vertebrate-pests/pest-animals-in-nsw/fox-biology http://agriculture.vic.gov.au/agriculture/pests-diseases-and-weeds/pest-animals/a-z-of-pest-animals/red-fox 3. Use information on the link below as well as other sources to research the effects of domestic pets on native wildlife. Conduct a class debate on the topic "People should not be allowed to have domestic pets in Australia". http://www.environment.gov.au/resource/protecting-our-wildlife-responsible-pet-ownership <p>Assessment Task: COMMUNICATING Geographical Information</p> <ol style="list-style-type: none"> 4. Create a short viral video (less than 1 minute) to educate the community on either <ul style="list-style-type: none"> ▪ Ways to reduce the impacts your pets have on native wildlife, OR ▪ Ways to eliminate chemicals and waste from around your home.

Assessment overview

Many of the activities require students to demonstrate their learning. These activities, in addition with the students' Fieldwork Booklets, can be used to assess student progress at various stages throughout the inquiry process.

The final task of the unit, the viral video, is designed as an assessment task. Through this, students will demonstrate their understanding of the unit including the Key Inquiry Questions and the Fieldwork. Assessment rubric available.