Stage 1 Science & Tech – Living World – Can you find me? | Stage 1 | Science

Summary

This excursion, along with the pre- and post- excursion lessons supplied, allows students to meet curriculum outcomes in a day of discovery and analysis. Students investigate the variety of living things that call Brewongle home by collecting data on living things, analysing their features, making an observational drawing and learning about habitats and their importance to all living things.

Duration

Sample term
5 weeks

Key inquiry questions

- What are the external features of living things?
- How can we improve a local environment to encourage living things to thrive?

Outcomes

Science and Technology K-6
ST11WSS observes, questions and collects data to communicate and compare ideas
ST12DPT uses materials, tools and equipment to develop solutions for a need or opportunity
ST14LWS describes observable features of living things and their environments

Content strand summary

Working scientifically skills

Questioning and predicting

- pose questions about familiar objects and events
- respond to posed questions
- make predictions about possible findings

Planning and conducting investigations

- explore and answer questions through participation in scientific investigations
- collect data from observations
- record observations accurately and honestly using observational drawings, labelling, informal measurements and digital technologies
- compare observations with others
- develop collaboration skills to effectively conduct investigations
- make safe choices when using materials and equipment

Processing and analysing data

- use a range of methods to sort and collate information
- represent information using drawings and simple tables, including digital representation methods

Thinking skills

Computational thinking – ComT
Design thinking – DesT
Scientific thinking – SciT
Systems thinking – SysT

	Communicating ▪ represent and communicate observations and ideas in a variety of ways	

Unit overview

This excursion allows students to discover the hidden treasures in the bush. They learn about habitats and why animals look like where they live (camouflage). Students catch tiny bugs off trees and identify them using identification charts. Local Indigenous culture is incorporated in the story of how Muruduwin (the Blue Wren) got his colour, taking part in the story by painting themselves up with ochre. Students then trek through the bush on a guided walk, using binoculars to search for birds. Will they see a Blue Wren hiding in his habitat?

Resources overview

Pre-excursion activities
- "Can You Find Me"? by Gordon Winch and Patrick Shirvington
- Coloured/patterned paper
- Lizard cutouts
- Paper & colours

Excursion activity 1
- Students' bugs from school or plastic toy bugs

Excursion activity 2
- Tree shake equipment
- Microscopes/magnifiers

Excursion activity 3
- Resin bugs
- Guided stag beetle drawing PowerPoint

Excursion activity 4
- Blue Wren story
- Ochre/charcoal
- Blue chalk to make blue ochre

Excursion activity 5
- Binoculars

Post-excursion activities
- List of Sydney's native small birds
- List of animals students saw on the excursion

Content	Teaching, learning and assessment
Stage 1 - Living World ## Content Focus Stage 1 of the Living World strand focuses on the features of living things, their environment and how they change and reproduce. Students investigate how plants and animals are used to satisfy our needs for food and fibre. Stage 1 of this strand develops students' understanding of how living things and their environment play a central role in the support for and survival of humans.	This unit covers outcomes for the first two content strands of the living world outcome for Stage 1: **External features of living things** **Inquiry question:** What are the external features of living things? **Living things live in different places** **Inquiry question:** How can we improve a local environment to encourage living things to thrive?
Stage 1 - Living World ## Working Scientifically **Planning and conducting investigations** ▪ **explore and answer questions through participation in guided scientific investigations** (ACSIS025, ACSIS038) ▪ **collect data from observations** ▪ **record observations accurately and honestly using observational drawings, labelling, informal measurements and digital technologies** (ACSIS026, ACSIS039) ▪ **compare observations with those of others** (ACSIS041, ACSIS213) ▪ **develop collaboration skills to effectively conduct investigations** ▪ **make safe choices when using materials and equipment**	
Stage 1 - Living World ## Content **External features of living things** **Inquiry question:** What are the external features of living things? Students: ▪ **describe the external features of a variety of living things** (ACSSU017)	**Pre-Excursion Activities** *Can You Find Me?* 1. Students read "Can You Find Me"? by Gordon Winch and Patrick Shirvington. Discuss camouflage: how does looking like where they live help animals to survive? 2. Activities for teaching camouflage: Hide the lizard ▪ Students cut out a paper lizard (use the Pattern Universe website to find a template https://patternuniverse.com/download/gecko-pattern/) ▪ Give students a piece of patterned paper, for example coloured stripes or spots. Scrapbooking paper is great for this activity. ▪ Ask students to place the cutout lizard on the paper and "hide it" - colour the lizard in with the same colours and patterns as the paper behind it. Staple the lizard to the paper and display. Make a bug ▪ With their newfound knowledge of camouflage, students draw a bug on an A5 piece of paper. The bug could be real or imagined, but it should be the type of bug they might find in local bushland. Students must colour their bug in, being mindful of the colours they might see in the trees, bush or soil.

Content	Teaching, learning and assessment
Stage 1 – Living World **External features of living things** **Inquiry question:** What are the external features of living things? Students: ▪ **describe the external features of a variety of living things** (ACSSU017) ▪ **identify and group plants and animals using their external features, for example:** SciT SysT – **native and introduced plants and animals** – **worms, insects, fish, reptiles, birds and mammals** **Living things live in different places** **Inquiry question:** How can we improve a local environment to encourage living things to thrive? Students: ▪ **identify that living things live in different places that suit their needs** (ACSSU211) ▪ **recognise that people use science and technology in their daily lives, including when caring for their environment and living things** (ACSHE022, ACSHE035)	**Excursion Activities** **Activity 1: Camouflage – Bug hide & seek** Location: Lookout track yarning circle ▪ Students discuss the concept of camouflage and how it helps animals to survive ▪ Students are placed in pairs and then given large plastic bugs. Discuss the colour and shape of the bug and point out similar colours and structures in the surrounding plants. ▪ Students take turns as hider and seeker. The hider hides their bug in a perfectly camouflaged place and guides their seeker buddy to the bug using the language of hot/cold. **Activity 2. Microhabitats & tiny bugs** Location: Ridge top bug pit ▪ Introduce the idea of a microhabitat on a branch of a tree. Discuss all the tiny animals which feed and live on the branches of trees. ▪ Conduct tree shakes. Catch and identify the variety of bugs found at Brewongle ▪ Share data with the rest of the class **Activity 3: Bug analysis and guided insect drawing** Location: Earth lab classroom ▪ Students analyse the features of a variety of bugs preserved in resin ▪ Complete a guided drawing of a Stag Beetle that can be taken home to keep **Activity 4: Muruduwin the Blue Wren** Location: Campfire ▪ Students sit around the lit campfire and listen to the Dreamtime Story of How the Blue Wren (Muruduwin) Got His Colours. ▪ As the teacher reads through the story, students paint their faces up with various coloured ochre to follow the story. Boys add blue ochre (because they're bold and brave like the male blue wren) but girls use grey and black (they're well camouflaged for protection). **Activity 5: Birdwatch Walk** Location: Various tracks around Brewongle ▪ Students are taken on a guided walk, using binoculars to look closely at any birds they might see. ▪ Discuss various habitats through the walk and discuss exactly where different animals may live. Particular focus on what birds need to live and what we can do here and back at school to make sure there's plenty of habitat for small birds (flowering, bushy, native shrubs and long grasses) **Key words for walk: camouflage, foraging/feeding, nesting, shelter, predators, surveying, monitoring, conservation, habitat, ecologist** *Did you see a blue wren? What was it doing?*

Content	Teaching, learning and assessment
Stage 1 - Living World ▪ **design and produce an environment to cater for the needs of a living thing, for example:**  – **encourage the growth of a plant, eg greenhouses, hydroponics** – **encourage the return of a living thing to a local habitat**	**Post excursion activity / assessment - Plan and build a habitat at school** *Project based learning unit.* Students choose a native animal they learnt about at Brewongle (provide list). Design and produce a habitat within your school where this animal can live. Include notes on the needs of animals at various stages in their life, eg. nesting birds or reptiles, tadpoles and frogs, etc. For example, a small bird haven for Muruduwin (Blue Wren), with long native grasses and flowering shrubs. This doesn't take much space - an area of 5 sq m would suffice. Include a birdbath and wait for the birds to find it! Monitor the animals using the habitat - eg. a short survey before recess each day, looking for animals and evidence of them (tracks, scats, scratches etc). If animals aren't using the habitat, consider possible reasons why and re-visit the design of the space...what's missing?

Assessment overview
School based assessment

Syllabus images and equations