



Teacher Resource Pack

Grade 5

Subject: Science

Achievement Standard: By the end of Year 5, students **analyse** how the form of living things enables them to function in their environments. Students **discuss** how scientific developments have affected people's lives; help us **solve** problems and how science knowledge develops from many people's contributions.

Strand	Sub-Strand	Content Descriptor	Elaborations
Science Understanding	Biological Sciences	Living things have structural features and adaptations that help them to survive in their environment (ACSSU043)	<ul style="list-style-type: none"> explaining how particular adaptations help survival such as nocturnal behaviour, silvery coloured leaves of dune plants describing and listing adaptations of living things suited for particular Australian environments exploring general adaptations for particular environments such as adaptations that aid water conservation in deserts
Science as a Human Endeavour	Use and influence of science	Scientific knowledge is used to solve problems and inform personal and community decisions (ACSHE083)	<ul style="list-style-type: none"> considering how best to ensure growth of plants

Save the Bilby Fund – Teachers Resource Pack – Grade 5

			<ul style="list-style-type: none"> considering how decisions are made to grow particular plants and crops depending on environmental conditions
Science Inquiry skills	Questioning and Predicting	With guidance, pose clarifying questions and make predictions about scientific investigations (AC SIS231)	<ul style="list-style-type: none"> exploring the range of questions that can be asked about a problem or phenomena and with guidance, identifying those questions that could be investigated applying experience from similar situations in the past to predict what might happen in a new situation
	Planning and Conducting	Identify, plan and apply the elements of scientific investigations to answer questions and solve problems using equipment and materials safely and identifying potential risks (AC SIS086)	<ul style="list-style-type: none"> experiencing a range of ways of investigating questions, including experimental testing, internet research, field observations and exploring simulations explaining rules for safe processes and use of equipment discussing the advantages of certain types of investigation for answering certain types of questions considering different ways to approach problem solving, including researching, using trial and error, experimental testing and creating models
		Construct and use a range of representations, including tables and graphs, to represent and describe observations, patterns or	<ul style="list-style-type: none"> constructing tables, graphs and other graphic organisers to show trends in data

Save the Bilby Fund – Teachers Resource Pack – Grade 5

	Processing and analysing data information	relationships in data using digital technologies as appropriate (AC SIS090)	<ul style="list-style-type: none"> identifying patterns in data and developing explanations that fit these patterns identifying similarities and differences in qualitative data in order to group items or materials
		Compare data with predictions and use as evidence in developing explanations (AC SIS218)	<ul style="list-style-type: none"> sharing ideas as to whether observations match predictions, and discussing possible reasons for predictions being incorrect
	Evaluating	Reflect on and suggest improvements to scientific investigations (AC SIS091)	<ul style="list-style-type: none"> working collaboratively to identify where methods could be improved, including where testing was not fair and practices could be improved
	Communicating	Communicate ideas, explanations and processes using scientific representations in a variety of ways, including multi-modal texts (AC SIS093)	<ul style="list-style-type: none"> discussing how models represent scientific ideas and constructing physical models to demonstrate an aspect of scientific understanding constructing multi-modal texts to communicate science ideas using labelled diagrams, including cross-sectional representations, to communicate ideas

Existing website resources (Grade 5)

Literacy
<u>Factual texts:</u>
<ul style="list-style-type: none">• Identified gap in resources
<u>Fictional texts:</u>
<ul style="list-style-type: none">• Identified gap in resources
<u>Activities:</u>
<ul style="list-style-type: none">• Go Green for Bilbies http://www.enviro-print.com.au/SaveTheBilbyFund/2015/pages/GoGreenForBilbies.html• Adopt a Bilby http://shop.dreamworld.com.au/Tickets/AAA• Sponsor a bilby http://www.enviro-print.com.au/SaveTheBilbyFund/Sponsorship/Become a Bilby Buddy.html
Information Communication Technologies
<u>Websites:</u>
<ul style="list-style-type: none">• www.eaterbilby.com.au (unable to audit due to password restrictions, as discussed with the Fund)
<u>Videos:</u>
<ul style="list-style-type: none">• Interview with Frank Manthey http://www.abc.net.au/7.30/content/2013/s3724375.htm
<u>Games and webquests:</u>
<ul style="list-style-type: none">• Identified gap in resources

Unit plans and lessons

- *Identified gap in resources*

Creative Arts

Music:

- *Identified gap in resources*

Arts and Crafts:

- *Identified gap in resources*

Role play:

- *Identified gap in resources*

Experiences

Field trips:

- **Charleville Bilby Experience**
<http://www.savethebilbyfund.com/charleville-bilby-experience.php>
- **Ipswich Nature Centre, Nocturnal Bilby Exhibit** URL ON Bilby Fund SITE N/A. This one works:
<http://www.discoveripswich.com.au/attraction/ipswich-nature-centre/>
- **Featherdale Wildlife Park**
<http://www.featherdale.com.au/school-excursions/>

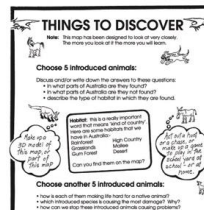
School visits:

- **Featherdale Wildlife Park**
<http://www.featherdale.com.au/school-excursions/>

Recommended resources (Grade 5)

Literacy

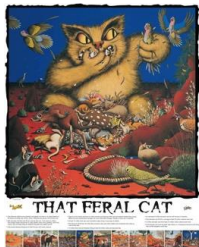
Factual texts:



Out of the Spinifex- feral map with worksheet (for photocopying) on the back.

Size: 960 mm by 680 mm

Deceased and extinct native creatures look down through a hole in the ozone layer at the feral animals that have taken their place. This poster gives a light-hearted but clear view of feral animal distribution across Australia (Kessing, 2016).



That Feral Cat- poster. Size: 750 mm by 600 mm (Kessing, 2016).

This dramatic image; from the BATTLE FOR THE SPINIFEX series illustrates the impact feral cats have on our native creatures. With information and alarming statistics on the deaths caused each day and night by feral cats (Kessing, 2016).



Battle for the Spinifex poster pack. Size: A3 pack of 11 posters (Kessing, 2016).

Feral animals have spread to all parts of dry Australia, where spinifex is often the main plant. Cats and foxes are always on the hunt. Camels, cattle, horses, donkeys, goats and rabbits eat the country bare. Many native creatures are now extinct and those who are left battle to stay alive. Painted as an exhibition of eleven large canvases, this vivid tale is told from the native animal's point of view (Kessing, 2016).

The secret life of the bilby

By Gary Humble
Eastern Bilbies are an increasingly popular alternative to the traditional chocolate rabbit. But the real bilbies are much harder to find - living secretive lives in isolated deserts across Australia, waiting for the right conditions to start a family.
Bilby areas shrank 77 per cent of Australia. In 1900, 1000 square miles of bilby habitat could be found across the continent. By the 1930s there were none to be found there.
The environmental changes of the last 100 years have resulted in a huge reduction in bilby habitat. Changes have led to the loss of their food sources, and the introduction of predators and competing species. The loss of their habitat has also led to the loss of their food sources.
The Greater Bilby (Macrotis lagotis) is the only remaining species of bilby. It is found in the southern part of the continent, where it has been protected by the Australian Government and the States.
Bilbies are a very unusual group of about 4000 kangaroos on one continent.
The last of their closest relatives the Lesser Bilby (M.)



The Secret Life of the Bilby by Gary Humble.

Informative article from the ABC website (upper grades)

Humble, G. (2006) *Secret Life of the Bilby*. Retrieved from

<http://www.abc.net.au/science/articles/2006/04/06/2042654.htm>



Australian Threatened Species: The Greater Bilby

Factsheet (upper grades)

Department of the Environment and Heritage. (2005) *Greater Bilby Macrotis Lagotis*. Retrieved from

<http://www.environment.gov.au/biodiversity/threatened/publications/greater-bilby-macrotis-lagotis>

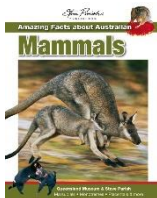


Greater Bilby Fact Sheet

Factsheet (upper grades)

World Wildlife Fund. (2008) *Greater Bilby Fact Sheet*. Retrieved from

http://www.wwf.org.au/crawl_publications.cfm?1743/Greater-bilby-fact-sheet



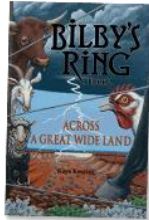
Amazing Facts about Australian Mammals. Written by Queensland Museum and Steve Parish. This book is packed full of information and you'll be amazed at how much you learn about Australia's mammals by dipping into the remarkable facts presented. It is to our astonishment we also learn that mammals today often had either giant or pygmy-sized ancestors millions of years ago! Full page spread on the Bilby (Parish, 2008).



Australia's Mammals: Have they a Future? Written by Woinarski, J., Burbidge, A. & Harrison, P. Journal article detailing the threats to Australia's native mammals.

- **Greater Bilby Endangered Animal Poster:** Factsheet poster. Teachstarter. (2016). *Greater Bilby Endangered Animal Poster*. Retrieved from <https://www.teachstarter.com/teaching-resource/greater-bilby-endangered-animal-poster/>
- **Image of a Greater Bilby, 'Macrotis lagotis'.** Retrieved from (Scootle) <http://www.scootle.edu.au/ec/viewing/R9612/index.html> (ESA, 2015)

Fictional texts:



Bilby's Ring Trilogy. Written and Illustrated by Kaye Kessing. Science-based, with ten years of research and writing, these first Ten Tales for 8 to 12 years will entertain and inform (Kessing, 2016).

Out of the Spinifex: Tales 1 to 3

Bilby the Pink-eared Bandicoot heads off with Chuditch the Spotted Quoll, hoping to find a safe place to live. Fire keepers no longer walk the great western deserts, burning the country in patches to bring new growth. Feral animals are everywhere, hunting creatures like Bilby and Chuditch or eating too many native plants. Our Australian deserts are no longer safe enough for many of our native species (Kessing, 2016).

Across a great wide land: Tales 4 to 6

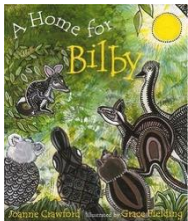
Joined by Mala the Rufous Hare Wallaby, Numbat and Sticky the Stick-nest Rat, the five are urged on by others in trouble.

As a simple search becomes a mighty quest, they must travel far across a great wide land to seek help from that scariest of species, the humans! (Kessing, 2016).

Into the Bowels of the Biggest City: Tales 7 to 10

Far on the sunup side of Australia, in the Biggest City by the Endless Sea, Felis Grandiosa the megalomaniac gutter cat has heard of the coming of The Five and swears to stop them.

Can Tinny and Nessa, the young humans who befriend The Five, manage to save them from a shocking death? (Kessing, 2016).



A Home for Bilby. Written by Joanne Crawford; Illustrated by Grace Fielding. Picture book for middle primary age. An engaging picture book that takes children on a journey through the Australian outback and the habitats of the animals that live there. Join Kangaroo, Emu, Platypus, Wombat and Koala as they help find a home for their new friend, Bilby (Magabala books, 2016).

Activities:

- ***See existing resources***

Information Communication Technologies

Websites:

- ***Kaye Kessing:*** <http://www.kayekessing.com/> (teacher resource to purchase Bilby related books, novels, posters)
- ***Bilby Blog:*** <http://www.kayekessing.com/bilbys-blog> (information on the Bilby with the ability to ask questions)
- ***Act Wild*** Zoos Victoria Retrieved from (Scoutle) <http://www.actwild.org.au/animals/> (ESA, 2015)



Greater Bilby Taronga Zoo

Taronga Zoo (2008) *Greater Bilby*. Retrieved from <https://taronga.org.au/animal/greater-bilby>

Video:



Vulnerable Bilbies can be seen at Taronga Zoo.

Informative video presentation from a senior keeper about the conservation and care of bilbies.

Taronga Sydney. (2010, August, 31). *Vulnerable Bilbies can be seen at Taronga Zoo*. Retrieved from <https://youtu.be/vlzEHTEPy7Q>

Games and webquests:

- **Act Wild** Zoos Victoria Retrieved from (Scootle) <http://www.actwild.org.au/animals/> (ESA, 2015)

Unit plans and lessons

- **CSIRO Education Programs-** Sustainable Futures (curriculum aligned): <http://www.csiro.au/en/Education/Programs/Sustainable-Futures>
- **C2C One School unit plan:** Unit 1-Science Yr 5 (V5.0)
Survival in the environment- In this unit students will examine the structural features and behavioural adaptations that assist living things to survive in their environment (DET, 2015).
- **Primary Connections, Desert Survivors** unit. This unit provides an opportunity for students to explore some of the structural features and adaptations of desert plants and animals and to compare them with plants and animals that live in other environments.
http://www.scootle.edu.au/ec/viewing/S7164/Desert-survivors_2012/index.html

Creative Arts

Music:

- **Identified gap in available resources**

Art and Craft:

- **Identified gap in available resources**

Role play:

- **Identified gap in available resources**

Experiences

Field Trips:



Adelaide Zoo learning experiences

Learning experiences for all age groups, linked to the curriculum.

<http://www.zoossa.com.au/zoo-learning-programs/>

Bunyaville Environmental Education Centre, programs for all year levels & curriculum links & risk assessment info.



<http://www.bunyavileec.eq.edu.au/programs/easter-bilby-adventure/easter-bilby-adventure.html>

School visits:

- **See existing resources**