

# Teacher Notes

## Themes

- The five senses
- Animal behaviour
- Physical animal features

## Key learning outcomes

- Animals use the five senses to survive in their environment
- Animals have unique features and behaviours
- Animal features and behaviours can enable their survival

## Key curriculum areas

- **Science:** Science Understanding (Biological sciences); Science Inquiry; Science as a Human Endeavour
- **English:** Language; Literacy
- **The Arts:** Visual Arts
- **Cross-curriculum Priority:** Sustainability

## Publication details

*Sensational Australian Animals*

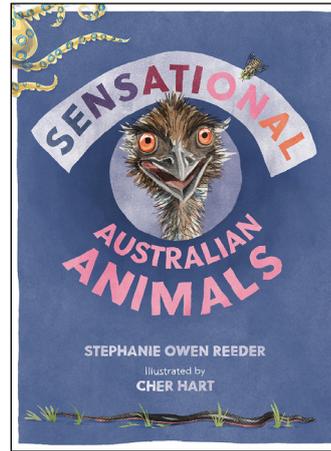
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# Sensational Australian Animals

Stephanie Owen Reeder and Cher Hart

## About the book

Explore the fascinating world of native Australian animals through the five basic senses – sight, sound, smell, taste and touch.

Covering more than 145 truly astounding animals – from sharp-eyed whale sharks to sticky-bellied green tree frogs – *Sensational Australian Animals* showcases the strange things these creatures can do with their eyes, ears, noses, mouths and skin! Meet birds that laugh, frogs that quack and fish that sing. Discover mammals that glow in the dark and seahorses disguised as seaweed. Be surprised by turtles that breathe through their bums and squirm at lizards that clean their eyes with their tongues. And then there's the dangerous creatures that bite and sting!

Be intrigued, amazed and astonished by what insects, birds, spiders, fish and many other animals are capable of!

## Recommended for

Readers aged 8 to 12 (Years 3 to 6)



PUBLISHING

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## About the author and illustrator

Dr **Stephanie Owen Reeder** is the author of over 20 historical novels and picture books for children, including *Swiftly: The Super-fast Parrot*. She has won the NSW Premier's History Award and the CBCA Book of the Year Award for information books.

**Cher Hart** is a nature illustrator, graphic designer and spatial analyst with a background in biology and a sense of fun. She has created scientific communication material for journals, exhibitions and government. This is her first published children's book.

## Pre-reading questions or activities

1. Ask students to name the five senses (*sight, sound, smell, taste, touch*). Then explain the sensory organs responsible for each one (*eyes, ears, nose, mouth, skin*).
2. Discuss why an animal's senses are so important for their survival. Ask students, individually or in groups, to list a sense that would be handy for a cockatoo, a kangaroo and a snake to have, and explain how each species would use it.

## Discussion questions

### Science

1. Read page 7 in the book *Sensational Australian Animals*. Ask students to find examples from the rest of the chapter 'The eyes have it!' of animals that use their eyes to do each of the following: (1) find food, (2) stay safe, (3) explore their environment.
2. Birds make all kinds of noises. Sometimes the noises are soft and pleasant, sometimes they are loud and terrifying. Some birds even mimic other animals. Why do you think the range of noises birds can create varies so much? What might cause birds to sing softly, and what might cause them to sing with more alarm?
3. Read the chapter 'Follow your nose!' on pp. 31–39 and discuss how animals use smell to help them find food or a mate, or to ward off predators. Some of their behaviours are probably not that surprising, but what's peculiar about the southern hairy-nosed wombat? (*Its poo is cube-shaped*)

# Teacher Notes

## English

1. There is a detailed Glossary at the back of the book, but there may be other words in the book that students don't understand that aren't defined in the Glossary. Ask students to select two words from the book that aren't already in the Glossary and discuss their meaning as a class. Can you make sense of them based on the others words around them? Here are some potential words, but there could be others:
  - boisterous
  - menacing
  - turbulent
  - wailing

## Sustainability

1. Some animals are fussy when it comes to what they eat. Take, for example, the koala. Its diet consists of eucalyptus leaves, but only from specific trees. What might happen to the koala population if they can no longer find their usual food source? (*Prompt students to consider habitat destruction due to development, bushfires, etc.*)

# Activities

## Science

1. Camouflage is used by many animals. Why do you think that's important for them? In small groups, choose one animal that's a master of disguise from the following list: tawny frogmouth, numbat, wrap-around spider, leafy sea dragon, reef stonefish, bird-dropping spider. Write a summary of how that animal disguises itself and why. Share your findings with the class.
2. Assign each student an animal to research from the list at: <https://www.australiangeographic.com.au/fact-files/>. Instruct them to use the relevant fact file for their species, as well as additional resources online or in the library, to write a report on their animal, including information on one of the five senses that the animal uses.

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3. Compare the behaviours of different species within the same animal group. Select an animal group from the book and create a table of information on each species discussed, noting which of the five senses it uses. The following example uses the animal group 'arachnids'.

Species name	Sense	Behaviour
Wolf spider	Sight	Sharp eyesight at night to hunt prey
Featherleg tarantula	Touch	Leg hairs pick up vibrations of prey and predators
Sydney funnel-web spider	Touch	Fangs penetrate skin and inject venom

## English

1. An index helps readers to navigate the content in a book by listing topics discussed and the page numbers they are found on. On small cards, write the name of each animal group that's listed in the *Sensational Australian Animals* index (or as many as there are students in the class). Place them in a container, then have students pick one card each. Instruct the students to write down, on the other side of the card, which of the five senses their chosen animal uses, and how or why. Tell them to use the index to help them find the information in the book. When finished, collect all the cards and place them in the container again. Pick one out and say the name of the animal, then ask the class to suggest what sense that animal might use. The student who had that card can then confirm if the class is right. Then select another card, and so on.
2. Complete the sensational crossword on pages 6 and 7. Answers are below.

### Answers

#### Across:

1. Whale shark
6. Nares
7. Insects
10. Emu
11. Mopoke
12. Two hundred
13. Platypus
15. Legs

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## Down:

1. Wedge-tailed eagle
2. Lizards
3. Herbivore
4. Kangaroo
5. Cicada
8. Numbats
9. Skin
14. Smell

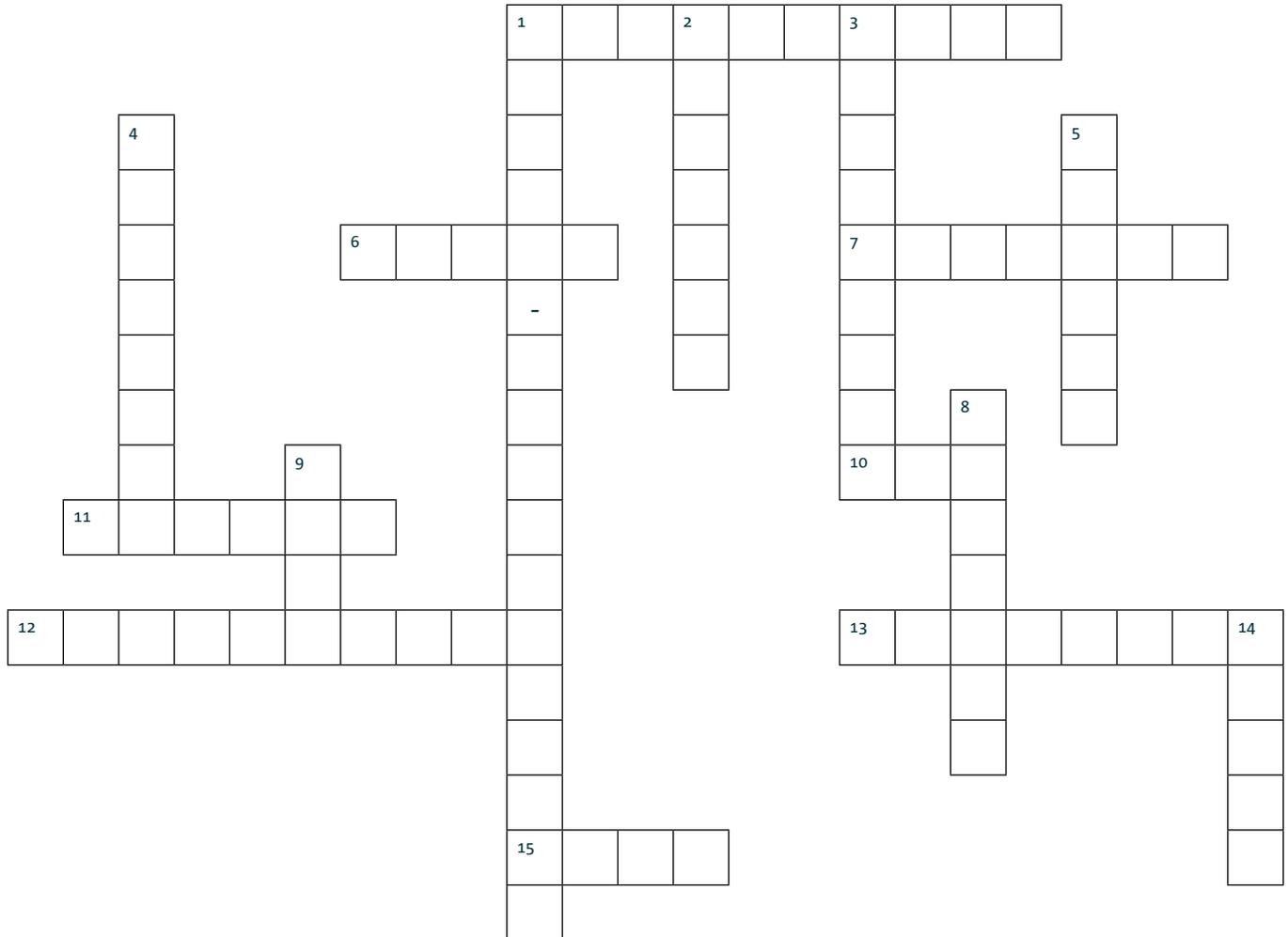
## The Arts

1. Using your imagination, and drawing on information in the book *Sensational Australian Animals*, draw a make-believe animal that has superpower senses! Incorporate at least two of the five senses in your new animal. Name your new creation and write a short summary of what makes it special, including how it uses its senses. Paint or colour in your drawing, then present it to the class.

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## Sensational crossword

Complete this crossword related to the book *Sensational Australian Animals*. Answers are on pages 4 and 5.



### CLUES

#### ACROSS

1. This animal's eyeballs are covered in tiny teeth (two words)
6. Nostrils of the great white shark
7. Producing smelly substances deters predators of these creatures
10. This bird has no vocal cords
11. Another name for a boobook owl
12. The number of eyes a scallop can have (two words)
13. This animal has sensors on its bill
15. Gumleaf katydids hear through earholes located here

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## DOWN

1. Australia's largest raptor (two words)
2. These reptiles are masters of camouflage
3. The name given to an animal that only eats plants
4. A mammal that rotates its ears 180 degrees
5. The loudest insect in the world
8. Termite-eating marsupials
9. Frogs and snakes shed this
14. Tasmanian devils use this sense to locate food

## Australian Curriculum Links (Version 9.0)

Year level	Learning area: Science	Other learning areas
Year 3	<p><b>Science Understanding: Biological sciences</b></p> <ul style="list-style-type: none"> <li>Compare characteristics of living and non-living things and examine the differences between the life cycles of plants and animals (<a href="#">AC9S3U01</a>)</li> </ul> <p><b>Science Inquiry: Questioning and predicting</b></p> <ul style="list-style-type: none"> <li>Pose questions to explore observed patterns and relationships and make predictions based on observations (<a href="#">AC9S3I01</a>)</li> </ul>	<p><b>English: Language</b></p> <ul style="list-style-type: none"> <li>Identify the purpose of layout features in print and digital texts and the words used for navigation (<a href="#">AC9E3LA05</a>)</li> </ul> <p><b>English: Literacy</b></p> <ul style="list-style-type: none"> <li>Use interaction skills to contribute to conversations and discussions to share information and ideas (<a href="#">AC9E3LY02</a>)</li> </ul> <p><b>The Arts: Visual Arts</b></p> <ul style="list-style-type: none"> <li>Use visual conventions, visual arts processes and materials to create artworks that communicate ideas, perspectives and/or meaning (<a href="#">AC9AVA4C01</a>)</li> <li>Share and/or display artworks and/or visual arts practice in informal settings (<a href="#">AC9AVA4P01</a>)</li> </ul>
Year 4	<p><b>Science Understanding: Biological sciences</b></p> <ul style="list-style-type: none"> <li>Explain the roles and interactions of consumers, producers and decomposers within a habitat and how food chains represent feeding relationships (<a href="#">AC9S4U01</a>)</li> </ul> <p><b>Science Inquiry: Processing, modelling and analysing</b></p> <ul style="list-style-type: none"> <li>Construct and use representations, including tables, simple column graphs and visual or physical models, to organise data and information, show simple relationships and identify patterns (<a href="#">AC9S4I04</a>)</li> </ul> <p><b>Science as a Human Endeavour: Use and influence of science</b></p> <ul style="list-style-type: none"> <li>Consider how people use scientific explanations to meet a need or solve a problem (<a href="#">AC9S4H02</a>)</li> </ul>	<p><b>English: Literacy</b></p> <ul style="list-style-type: none"> <li>Plan, create, edit and publish written and multimodal imaginative, informative and persuasive texts, using visual features, relevant linked ideas, complex sentences, appropriate tense, synonyms and antonyms, correct spelling of multisyllabic words and simple punctuation (<a href="#">AC9E4LY06</a>)</li> <li>Listen for key points and information to carry out tasks and contribute to discussions, acknowledging another opinion, linking a response to the topic, and sharing and extending ideas and information (<a href="#">AC9E4LY02</a>)</li> </ul> <p><b>The Arts: Visual Arts</b></p> <ul style="list-style-type: none"> <li>Use visual conventions, visual arts processes and materials to create artworks that communicate ideas, perspectives and/or meaning (<a href="#">AC9AVA4C01</a>)</li> <li>Share and/or display artworks and/or visual arts practice in informal settings (<a href="#">AC9AVA4P01</a>)</li> </ul>

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Year level	Learning area: Science	Other learning areas
Year 5	<p><b>Science Understanding: Biological sciences</b></p> <ul style="list-style-type: none"> <li>Examine how particular structural features and behaviours of living things enable their survival in specific habitats (<a href="#">AC9S5U01</a>)</li> </ul> <p><b>Science Inquiry: Processing, modelling and analysing</b></p> <ul style="list-style-type: none"> <li>Construct and use appropriate representations, including tables, graphs and visual or physical models, to organise and process data and information and describe patterns, trends and relationships (<a href="#">AC9S5I04</a>)</li> </ul>	<p><b>English: Literacy</b></p> <ul style="list-style-type: none"> <li>Plan, create, edit and publish written and multimodal texts whose purposes may be imaginative, informative and persuasive, developing ideas using visual features, text structure appropriate to the topic and purpose, text connectives, expanded noun groups, specialist and technical vocabulary, and punctuation including dialogue punctuation (<a href="#">AC9E5LY06</a>)</li> <li>Plan, create, rehearse and deliver spoken and multimodal presentations that include relevant, elaborated ideas, sequencing ideas and using complex sentences, specialist and technical vocabulary, pitch, tone, pace, volume, and visual and digital features (<a href="#">AC9E5LY07</a>)</li> </ul> <p><b>The Arts: Visual Arts</b></p> <ul style="list-style-type: none"> <li>Use visual conventions, visual arts processes and materials to plan and create artworks that communicate ideas, perspectives and/or meaning (<a href="#">AC9AVA6C01</a>)</li> <li>Select and present documentation of visual arts practice, and display artworks in informal and/or formal settings (<a href="#">AC9AVA6P01</a>)</li> </ul>
Year 6	<p><b>Science Understanding: Biological sciences</b></p> <ul style="list-style-type: none"> <li>Investigate the physical conditions of a habitat and analyse how the growth and survival of living things is affected by changing physical conditions (<a href="#">AC9S6U01</a>)</li> </ul> <p><b>Science as a Human Endeavour: Use and influence of science</b></p> <ul style="list-style-type: none"> <li>Investigate how scientific knowledge is used by individuals and communities to identify problems, consider responses and make decisions (<a href="#">AC9S6H02</a>)</li> </ul>	<p><b>English: Literacy</b></p> <ul style="list-style-type: none"> <li>Analyse how text structures and language features work together to meet the purpose of a text, and engage and influence audiences (<a href="#">AC9E6LY03</a>)</li> <li>Plan, create, edit and publish written and multimodal texts whose purposes may be imaginative, informative and persuasive, using paragraphs, a variety of complex sentences, expanded verb groups, tense, topic-specific and vivid vocabulary, punctuation, spelling and visual features (<a href="#">AC9E6LY06</a>)</li> </ul>
All	<p><b>Cross-curriculum Priority: Sustainability</b></p> <ul style="list-style-type: none"> <li>Sustainable patterns of living require the responsible use of resources, maintenance of clean air, water and soils, and preservation or restoration of healthy environments. (<a href="#">SS2</a>)</li> </ul>	

## Related books from CSIRO Publishing

For younger readers:

- *Life in a Hollow* (<https://www.publish.csiro.au/book/8076>)
- *Swiftly: The Super-fast Parrot* (<https://www.publish.csiro.au/book/8062>)

For older readers:

- *A Hollow Is a Home* (<https://www.publish.csiro.au/book/7729>)
- *AmAZed! CSIRO's A to Z of Biodiversity* (<https://www.publish.csiro.au/book/7984>)
- *Animal Migrations: Flying, Walking, Swimming* (<https://www.publish.csiro.au/book/8044>)
- *Poo, Spew and Other Gross Things Animals Do!* (<https://www.publish.csiro.au/book/8021>)
- *The Encyclopedia of STEM Words: An Illustrated A to Z of 100 Terms for Kids to Know* (<https://www.publish.csiro.au/book/8084>)



# Teacher Notes

## Double Helix magazine

Packed with fun, exciting and quality articles, Double Helix magazine is created to inspire young readers. It covers a range of topics across science, technology, engineering and maths.

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There is plenty of free content that can be used at school or home to support learning.

## Double Helix Extra

Sign up to receive a fortnightly Double Helix email newsletter, including a quiz, brainteaser, news and a hands-on activity: <https://doublehelixshop.csiro.au/eNewsletter>

## Other CSIRO resources

CSIRO has developed and delivered a broad range of high-quality STEM education programs and initiatives for nearly 40 years. Our programs aim to inspire the pursuit of further STEM education among students and the community, to equip the emerging workforce with tomorrow's skill sets, and to strengthen collaboration between industry and classrooms across Australia. For more information visit: <https://www.csiro.au/en/Education>