

Teacher Notes

Themes

- Environments
- Animal adaptations
- Conservation

Key learning outcomes

- Discover the variety of adaptations our wild and wonderful animals have evolved to survive in diverse environments.
- Develop your understanding of animals and the environments they inhabit, with all their benefits and challenges.
- Develop an awareness for environmental conservation.

Key curriculum areas

- **Science:** Science Understanding (Biological sciences, Earth and space sciences)
- **English:** Language; Literacy; Literature
- **The Arts:** Visual Arts
- **Cross-curriculum Priority:** Sustainability

Publication details

Our World of Wild Wonders

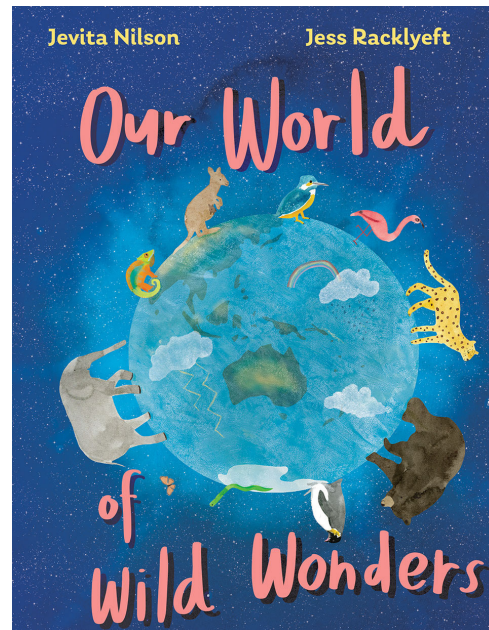
ISBN: 9781486318667

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Our World of Wild Wonders

Jevita Nilson and Jess Racklyeft

About the book

Earth's wildlife is nothing short of extraordinary. There are colour-changing chameleons in the forests of Madagascar and cliff-climbing goats in the European Alps.

There are fluorescent fish in the depths of the Mariana Trench and wildfire-surviving echidnas in the Australian bush.

Our World of Wild Wonders explores the unique animal species that inhabit our planet. Some mighty, some meek, but all wondrous in their own special way.

Shall we go explore?

Recommended for

Readers aged 5 to 9 (Years 1 to 4)



PUBLISHING

Teacher Notes

About the author and illustrator

Jevita Nilson is a children's author with a love for nature, words and all things wondrous. Based in Perth, she writes heartfelt lyrical fiction and non-fiction picture books to inspire curious kids.

Jess Racklyeft is an author and illustrator based in Melbourne. She particularly loves illustrating plants and animals and sharing her love of the Australian bush. Her recent works include *The Forgotten Song* (CSIRO Publishing).

Pre-reading questions or activities

Adaptations are characteristics that help a species survive in its environment. Adaptations can be structural (changes to the physical body), physiological (changes to chemicals inside the body) or behavioural (how the animal acts).

Structural adaptations

Can you think of any structural adaptations (changes to the physical body) that humans have that can help them survive?

Physiological adaptations

Can you think of any physiological adaptations (changes to chemicals inside the body) that humans have that can help them survive?

Behavioural adaptations

Can you think of any behavioural adaptations (how the animal acts) that humans have that can help them survive?

Discussion questions

Science

1. We were lucky to see so many diverse animals showing off their incredible variety of adaptations as we journeyed through the book. What special adaptations did you spot? What sort of adaptation do you think it was (structural/physiological/behavioural)? How do you think this adaptation helps the animal survive in its environment?
2. *'Unaware of the dangers below, these nimble creatures balance on narrow ledges and jump across rocky outcrops.'*
Why do you think the goats have chosen such a challenging and dangerous habitat to live? What do you think the benefits of such a dangerous habitat are?
3. *'Winter has arrived, and the tired travellers must rest their weary wings.'*
What behavioural adaptation do you think the author is describing here? Do you know any other animals that do this? Why do you think this is such a common behavioural adaptation?

English

1. *'Concealed by a cloak of darkness ...'* and *'... the trees wear a blanket of butterflies.'*
The author uses cloaks and blankets to describe two very different things in the book. What language feature is the author using to help the reader visualise as they read? Now use your knowledge of visualising and the five senses to explain how each description makes you feel when you read it.
2. *'As the dolphins swim along the sandy seabed in search of fish, high-pitched clicks echo through the murky water.'*
Use your inferencing skills to explain what these *high-pitched clicks* are and where they are coming from. Additionally, explain why the author didn't just tell us what the *high-pitched clicks* are.
3. This book has a beautiful story, but the author also has an important message for the reader. Using relevant comprehension strategies (*inferencing, summarising, synthesising*), explain what you believe the message is, and justify your response with evidence from the text.

Teacher Notes

Sustainability

1. The animals in this book have evolved many specialised adaptations over millions of years just so they can survive in their chosen environments. But what do you think will happen if we start to lose these habitats through human impact? What will happen to the animals who have adapted to these environments? How can people help?

Activities

Science

Adaptation sort

Sort all the animal adaptations from the story into Structural, Physiological or Behavioural, in a table like the one below.

Structural	Physiological	Behavioural

Better people

Think about all the adaptations we discovered in the book, such as migration, bioluminescence, echolocation, camouflage and many more. Which one of these adaptations would you most wish humans to evolve? Illustrate a picture of yourself with this structural, physiological or behavioural adaptation and write an explanation as to how this adaptation will be helpful for human survival.

Teacher Notes

Migrating animals

Just like the monarch butterflies in the story, many different creatures have adapted to seasonal migrations for their survival. Doing some research with your class, discover other migrating animals and answer the following questions.

- Why do these animals migrate?
- How far do they migrate?
- Where do they start, and where do they go?
- How long does their migration take?

English

Describing adaptations

Jevita Nilson does a wonderful job describing the adaptations of all the wild wonders in our story. She uses metaphors, similes, alliteration and many more literary devices to create stunning visuals in the mind of the reader, and you can do the same. Choose an animal adaptation from around the world that has not been mentioned in the book and write your own lyrical description using one or more of the literary devices you have observed in the story.

The Arts

Starlings in the sky

Look at the illustration of the starlings in the book and then watch the following video to observe all the shapes the starlings make as they fly in their murmuration:

<https://www.youtube.com/watch?v=uV54oa0SyMc>

You will now make your own painting of a starling murmuration.

Materials:

- Sponges or foam brushes
- White paper
- Watercolour paints
- Cup of water
- Black marker

Teacher Notes

Instructions:

1. Start by using a sponge or foam brush to paint a line of dark green along the bottom of your paper. This will represent the green grass. Feel free to add little hills or trees for extra detail.
2. Next, you will be creating the evening sky. As you can see in the book and the video, the sky is a mixture of yellows, oranges, pinks, reds and blues. From the bottom of the paper just above the green grass start by painting horizontal lines of orange and yellow allowing them to overlap. As you get further up into the sky start painting horizontal lines of pinks and reds, again allowing them to overlap so the colours mix. Finally, add horizontal lines of blue, going from light to dark until you reach the top of the paper.
3. Once you have finished painting your evening sky allow this to dry.
4. When your evening sky is dry, it's time to paint your starlings! Taking inspiration from the illustrations in the book and the video of the murmurations, use a foam brush with black watercolour paint to create different shapes in the sky. Allow the colour to be lighter, almost speckled, in some parts and darker in others to create the illusion of starlings in the sky.
5. Lastly, when your painting is dry you can go in with a black marker and add some individual starlings throughout the murmuration, just like the illustrator has done.

Teacher Notes

Australian Curriculum Links (Version 9.0)

Year level	Learning area: Science	Other learning areas
Years 1/2	<p>Science Understanding: Biological sciences</p> <ul style="list-style-type: none"> Identify the basic needs of plants and animals, including air, water, food or shelter, and describe how the places they live meet those needs (AC9S1U01) <p>Science Understanding: Earth and space sciences</p> <ul style="list-style-type: none"> Describe daily and seasonal changes in the environment and explore how these changes affect everyday life (AC9S1U02) 	<p>English</p> <p>Language: Text structure and organisation</p> <ul style="list-style-type: none"> Explore how texts are organised according to their purpose, such as to recount, narrate, express opinion, inform, report and explain (AC9E1LA03) Identify how texts across the curriculum are organised differently and use language features depending on purposes (AC9E2LA03) <p>Language: Language for expressing and developing ideas</p> <ul style="list-style-type: none"> Experiment with and begin to make conscious choices of vocabulary to suit the topic (AC9E2LA09) <p>Literature: Literature and contexts</p> <ul style="list-style-type: none"> Discuss how language and images are used to create characters, settings and events in literature by First Nations Australian, and wide-ranging Australian and world authors and illustrators (AC9E1LE01) <p>Literacy: Texts in context</p> <ul style="list-style-type: none"> Discuss different texts and identify some features that indicate their purposes (AC9E1LY01) Identify how similar topics and information are presented in different types of texts (AC9E2LY01) <p>Literacy: Interacting with others</p> <ul style="list-style-type: none"> Use interaction skills including turn-taking, speaking clearly, using active listening behaviours and responding to the contributions of others, and contributing ideas and questions (AC9E1LY02) Use interaction skills when engaging with topics, actively listening to others, receiving instructions and extending own ideas, speaking appropriately, expressing and responding to opinions, making statements, and giving instructions (AC9E2LY02) <p>The Arts: Visual Arts</p> <ul style="list-style-type: none"> Experiment and play with visual conventions, visual arts processes and materials (AC9AVA2D01) Use visual conventions, visual arts processes and materials to create artworks (AC9AVA2C01)

Teacher Notes

Year level	Learning area: Science	Other learning areas
Years 3/4	<p>Science Understanding: Biological sciences</p> <ul style="list-style-type: none">Compare characteristics of living and non-living things and examine the differences between the life cycles of plants and animals (AC9S3U01) <p>Science Understanding: Earth and space sciences</p> <ul style="list-style-type: none">Compare the observable properties of soils, rocks and minerals and investigate why they are important Earth resources (AC9S3U02)	<p>English</p> <p>Language: Text structure and organisation</p> <ul style="list-style-type: none">Describe how texts across the curriculum use different language features and structures relevant to their purpose (AC9E3LA03) <p>Literacy: Texts in context</p> <ul style="list-style-type: none">Recognise how texts can be created for similar purposes but different audiences (AC9E3LY01) <p>Literacy: Interacting with others</p> <ul style="list-style-type: none">Use interaction skills to contribute to conversations and discussions to share information and ideas (AC9E3LY02) <p>Literature: Examining literature</p> <ul style="list-style-type: none">Discuss how an author uses language and illustrations to portray characters and settings in texts and explore how the settings and events influence the mood of the narrative (AC9E3LE03) <p>The Arts: Visual Arts</p> <ul style="list-style-type: none">Experiment with a range of ways to use visual conventions, visual arts processes and materials (AC9AVA4D01)Use visual conventions, visual arts processes and materials to create artworks that communicate ideas, perspectives and/or meaning (AC9AVA4C01)
All	<p>Cross-curriculum Priority: Sustainability</p> <ul style="list-style-type: none">All life forms, including human life, are connected through Earth's systems (geosphere, biosphere, hydrosphere and atmosphere) on which they depend for their wellbeing and survival (SS1)Sustainable patterns of living require the responsible use of resources, maintenance of clean air, water and soils, and preservation or restoration of healthy environments (SS2)	

Related books from CSIRO Publishing

By the same author/illustrator team:

- *Our World Full of Wonder* (<https://www.publish.csiro.au/book/8148>)

For younger readers:

- *Oceans at Night* (<https://www.publish.csiro.au/book/8104>)
- *The Forgotten Song: Saving the Regent Honeyeater* (<https://www.publish.csiro.au/book/8078>)

For older readers:

- *Sensational Australian Animals* (<https://www.publish.csiro.au/book/8094>)

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

Double Helix Extra

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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>