



TEACHING NOTES



THE NG IN NINGALOO

Written by Judith Barker,
Illustrated by
Janie Frith.



ABOUT THE AUTHOR



AWARD-WINNING CHILDREN'S AUTHOR JUDITH BARKER

attributes Dr Seuss' fantastical tales about faraway places to her love of writing children's books. She is a teacher, author, and education consultant. After teaching phonics and phonemic awareness to children in Europe, the Middle East, India and China, Judith saw a growing need to support literacy in schools. Her desire to lend a helping hand to those involved in the art of teaching early reading skills has resulted in this wonderful series of beautifully illustrated, Australian phoneme-themed stories. Apart from developing reading skills, the books foster imagination, language, and sound-spelling recognition.

OUTLINE

THIS IS THE STORY OF THE NG.

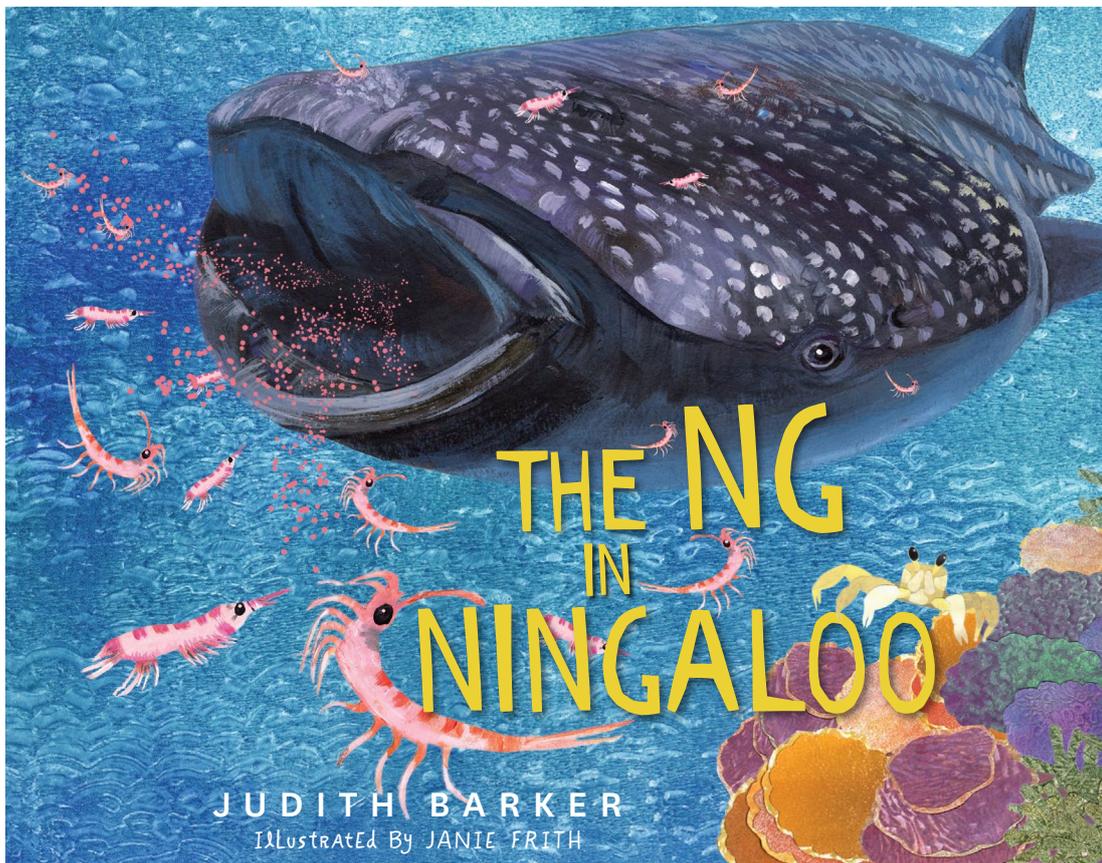
On an immersive journey, students discover Ningaloo's many secrets and wonders, as they go in search of knowledge about its three mighty ecosystems symbolised by the emu's paw, and representing Ningaloo Reef, Exmouth Gulf, and Cape Range. They also explore the consonant digraph NG sound in different words along the way.



AUSTRALIAN CURRICULUM CONNECTIONS

THE JOY IN THIS UNIT OF WORK IS ITS FOCUS ON THREE REGIONS: NINGALOO CORAL REEF, EXMOUTH GULF, AND THE CAPE RANGE NATIONAL PARK.

It can be taught over a week or six-week period, and supports teaching and learning in language arts, balanced literacy, phonemic awareness, phonics, humanities, social science, and geography across the primary school curriculum. Topics include Sustainability, Indigenous Heritage and the Sea Country, Aboriginal Language and Heritage, National Marine Parks, World Heritage Sites, UNESCO, Biodiversity, Endangered Species, Climate Change, Ecosystems, Plants and Wildlife, Threats to Marine Life, and Responsible Practices. Creative arts can also be incorporated across the unit.



BACKGROUND INFORMATION

Ningaloo is the traditional country of West Thalanyji, Baiyungu and Yinikurtura peoples. Beside the red soils of Cape Range lie the turquoise lagoons of Ningaloo Reef, home to some of the world's most incredible marine creatures.

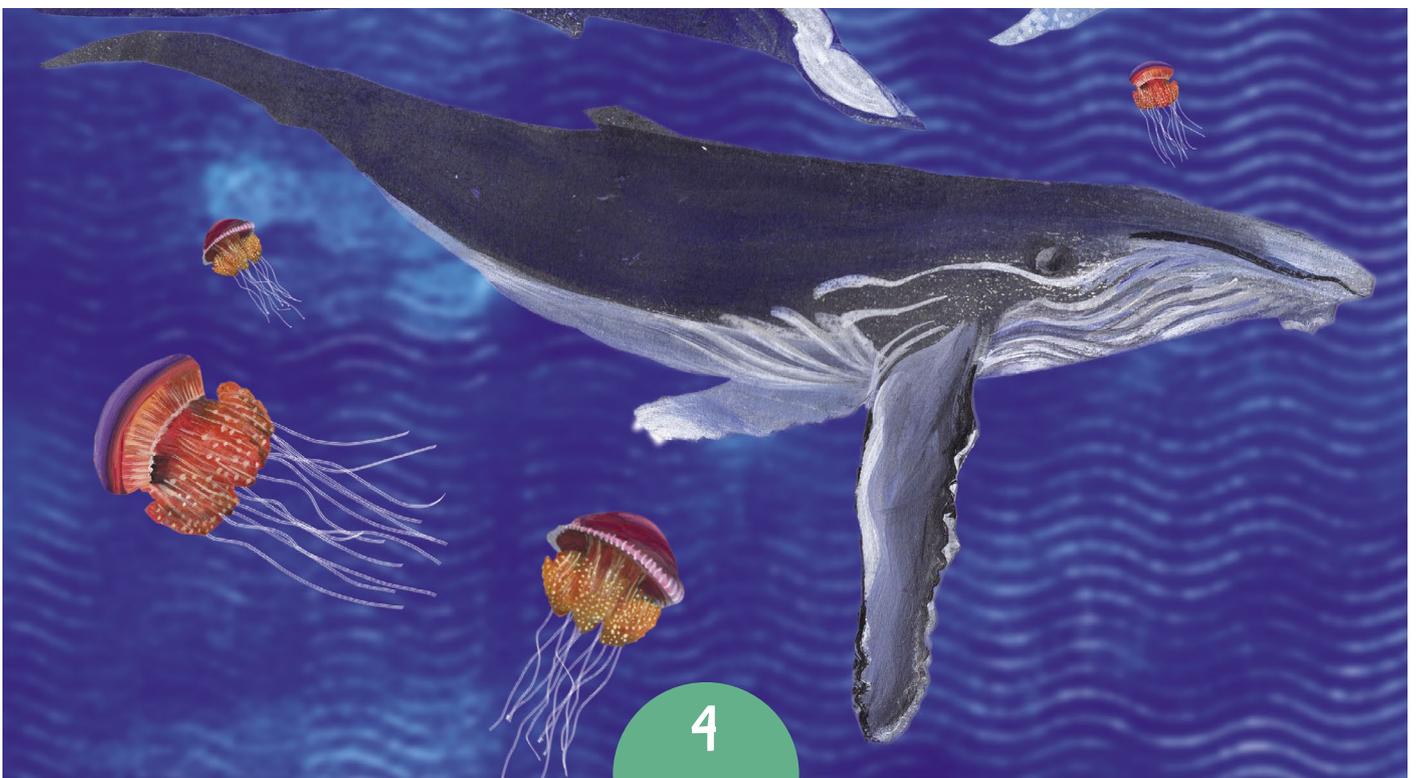
Some 1200km north of Perth, the fringing Ningaloo Reef is a sparkling gem in Western Australia's crown. Right on the coast, the reef is a UNESCO World Heritage-listed marine park and sanctuary for Exmouth Gulf. Ningaloo's most notable visitors are the whale sharks. This is one of the world's largest aggregations, making it a sanctuary for breeding, along with manta rays, turtles or humpback whales during their migration.

Ningaloo Marine Park stretches 300 km down the coast from North West Cape, and the adjacent Cape Range National Park, forming part of a World Heritage-listed area inscribed in 2011 for its diversity of habitat and species, great and small. Base yourself in the coastal town of Exmouth and you'll have easy access to the sea – Nyinggulu Thanardi country as it's known by its traditional owners – and the rugged inland Ngarrari country.

Background information about the variety of species found in Ningaloo Reef can be found at marinewaters.fish.wa.gov.au/resources/

Fun facts and fishy activities can be found at:

- <https://marinewaters.fish.wa.gov.au/resource/fun-fact-sheet-manta-rays/>
- <https://kids.nationalgeographic.com/animals/fish/facts/whale-sharks>
- <https://www.youtube.com/watch?v=i2zoDtmOWp0>
- <https://marinewaters.fish.wa.gov.au/resource/whats-a-fish/>



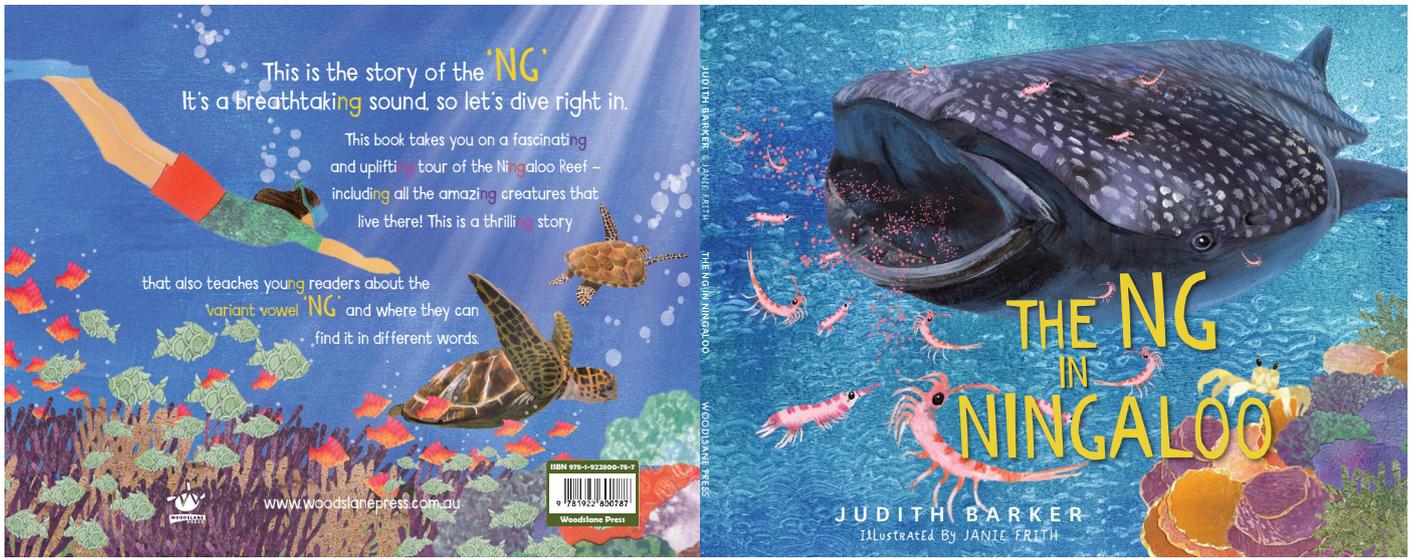
BACKGROUND INFORMATION

CONTINUED

TEN FUN FACTS ABOUT NINGALOO REEF

- 1** Ningaloo Reef is the world's largest, fringing coral reef.
- 2** Ningaloo Marine Park is home to over 450 different species of marine life, including whale sharks, large pelagic fish such as tuna and billfish, humpback whales, dolphins, manta rays, dugongs, and turtles (including green, loggerhead, and hawksbill turtles).
- 3** The whale shark is the largest fish in the world!
- 4** A manta ray is like a vacuum cleaner; their wings clean the sea floor and turn over the nutrients.
- 5** Ningaloo is one of the few places in the world where you may swim with a whale shark.
- 6** Up to 40 000 humpback whales grace Ningaloo's pristine waters between June to late October each year.
- 7** A whale shark's mouth has over 3000 super-small teeth arranged in more than 300 rows.
- 8** Exmouth Gulf is an important breeding ground for humpback whales to mate and calve.
- 9** Ningaloo Nursery (Exmouth Gulf) is one of the most important nesting grounds in the world for green and loggerhead turtles. Annually, between November and March, female turtles journey through the reef to lay clutches of eggs on the shore.
- 10** In Aboriginal Dreaming stories, the emu represents the creator.





BEFORE READING

- **Listen** to Tim Winton introduce Ningaloo
<https://www.youtube.com/watch?v=SjY6kp-x5eg>
- **View** the cover and title of the book. Identify the title, the author and illustrator, the publisher, the blurb, and the consonant digraph NG.
- **Ask:**
 - What do you think the book might be about?
 - What do you think the title means?
 - What can you tell about the consonant digraph NG from the title?
 - Can you think of other words with consonant digraph NG sound?
 - How many spelling patterns do you know with the consonant digraph NG?
 - What do you know about Ningaloo Reef, Exmouth Gulf and Cape Range?
 - What more would you like to know about Ningaloo?
 - What is a gulf, an estuary, a sanctuary, an underground cave?





DURING READING

- **Pre-teach** any difficult vocabulary. After an initial reading of the book, go through each page and highlight some of the specific words, spellings and sounds used in the text.
- **Words of interest** may include: fluorescent, krill, precede, millipede, fringing, intrepid, refuge, bottom dwelling, gudgeons, briny memory, sanctuary, meandering, blue lagoons, mangroves, hatchlings, endangered, wetlands, middens.
- **Highlight** the graphemes of the NG sound, and sound out the different spelling patterns.
- **Explore** connections between land, plants and sea.
- **Identify** the three main connecting Ningaloo ecosystems represented on the emu's paw: Ningaloo Coral Reef, Exmouth Gulf (Ningaloo estuary), and Cape Range.

AFTER READING

HSIE

- During subsequent readings of *The NG in Ningaloo*, focus on Ningaloo Reef as a habitat and the diversity of marine life that it supports. (Teacher resource: https://www.fish.wa.gov.au/documents/recreational_fishing/fact_sheets/fact_sheet_whale_shark.pdf) Students will:

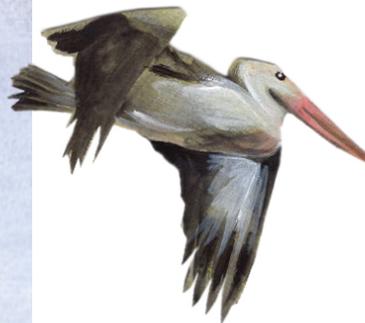
Explore the diversity of marine life on Ningaloo Reef.

Engage in a discussion during a shared reading of the story.

Investigate Ningaloo Reef as a habitat for many marine organisms.

Discover the world's largest fish, the whale shark.

- This story has several layers. As a class, explore:
 - What are pre-historic collisions, connections, estuary?
 - Where is Ningaloo, Exmouth Gulf and Cape Range?
 - What is an ecosystem?
 - What is biodiversity?
 - What are middens? (shells)
 - What is unique about the species that live in the still waters of an underground cave ecosystem?
 - How did Aboriginal people traditionally navigate their way along Ningaloo Reef, Exmouth Gulf and north of Cape Range in Western Australia?
 - What marine life, plants and birdlife are found in these three ecosystems?
 - How have Indigenous Australians traditionally cared for Ningaloo, Exmouth Gulf and Cape Range?



General Comprehension

- **Ask** students to share anything they know of Ningaloo, Exmouth Gulf and Cape Range. Jot down ideas on the board. Discuss:
 - Where are these regions?
 - Why is Ningaloo UNESCO World Heritage listed?
 - What are the current threats to Ningaloo and Exmouth Gulf?
 - Can you give examples of threats?
- **Ask:**
 - What does Ningaloo mean in Aboriginal language? The name ‘Ningaloo’ comes from the Aboriginal Wajarri word meaning promontory, deep water, or high land jutting into the sea. Together, watch the video ‘Who are the Baiyunga people?’ <https://baiyungudreaming.com.au/>
 - Where is Ningaloo, Exmouth Gulf and Cape Range?
 - What are the three different ecosystems that represent the emu’s paw in the book?
- Did you know that Exmouth Gulf, Ningaloo’s nursery, is a diverse environment, on land and underwater?
- Did you know, it is a critical resting and nursing area for one of the world’s largest humpback whale populations, and a place of global importance?
- Why is it important to sustain the delicate ecosystem in this UNESCO World Heritage-listed gulf?
- Why is Cape Range significant to research and scientists?

- **Identify** the needs of whale sharks and how those needs are met for breeding and calving. You might ask:
 - What are different types of marine habitats?
 - What is an example of Ningaloo as a sanctuary (Ningaloo nursery)?
 - Do all fish have the same ecosystem/ diversity in this habitat?
 - What are some of the different conditions needed for fish to breed and calve?

CONTINUED
AFTER
READING



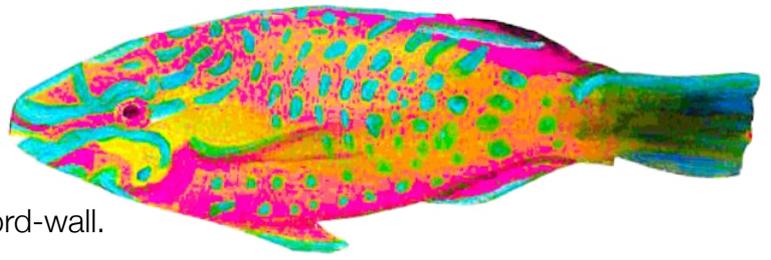
ACTIVITIES

HSIE/STEM

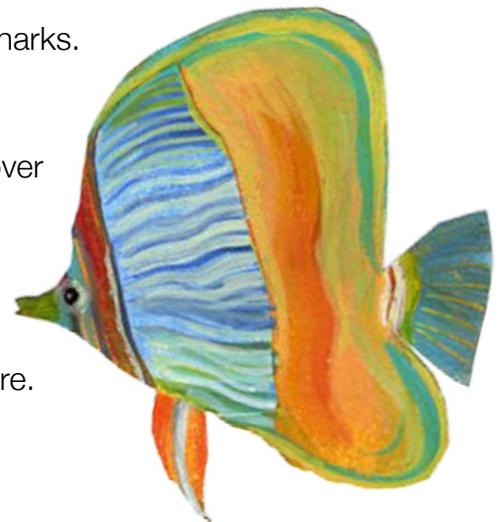
- **Ask** students to produce a poster or pamphlet explaining what a day in the life of a marine biologist might look like.
- **Have** students work in groups to prepare a presentation identifying the importance of Ningaloo Reef to Australia's fishing industry and Australia's tourism industry. You may wish to assign different topics to each group member.
- **Challenge** students to make a self-propelled, soda-bottle submarine. There are numerous options open to enterprising inventors wishing to make a miniature submarine. See https://www.youtube.com/watch?v=an_sFfW5ztg or <https://www.youtube.com/watch?v=DP4t99DTBmo>
- **Compare** living and non-living things and group them based on observable features and characteristics. Ask students if there is anything they can think of that they are not sure is either? Note down any questions students have, or examples of anything students identify, that they are not sure of either. Return to these at the end of the lesson.
- **Divide** the class into groups of four or five. Provide each group with a piece of butcher's paper divided into three. Label one column Ningaloo Coral Reef, one Exmouth Gulf (estuary), and one Cape Range. Provide students with images of a wide range of marine life and plants from different ecosystems and environments. Include unique fish and marine life to each region, eg whale sharks, frogfish, blind gudgeons. Each group does not need to have the same images. Often things that were once living are the most confusing for students, so it is good to include such examples as middens, coral and bones.
- **Have** students observe and discuss each image and place it in the appropriate column. If they are unsure or think the thing can be classified in another way, students should be prepared to justify their choices. Do a gallery walk around the classroom to view and discuss each group's decisions. Identify similarities and differences between groups. Discuss anything students are not sure of.
- **Explore** some of the differences and similarities between the habitats of Ningaloo's coral reef, Exmouth Gulf (estuary) and Cape Range. Ask:
 - What insects and rockpool species are unique to the underground cave?
 - Why are some of the rockpool species blind in the cave?



ACTIVITIES CONTINUED



- Add new words to a class word-wall.
- Ask students to record their learning and reflections in their science journals.
- Encourage students to conduct research into, and record information about, corals, fish, and animals with special symbiotic relationships. Establish scientific terminology students will use to research different marine animals and define the words: sustainability, estuary, pre-historic collisions, connections, symbiotic relationships, nursery, sanctuary, underground cave. Some of these scientific terms may need clarification but could be taught along the way as the students do research. As information about each marine animal is found, it could be inserted into a class table and used to create a retrieval chart. Extra columns can be added as necessary. The information gathered could then be used for a variety of activities if time allows, eg reports, posters, information booklets, parade presentations, newsletters and PowerPoint presentations. Examples of information collected for specific marine animals could include:
 - Why a whale shark is different to other sharks.
 - Why we may swim with a whale shark, but not with other sharks.
 - Why whale sharks migrate to Ningaloo over long distances each year.
 - What whale shark eat.
 - What a whale shark’s habitat needs to have for them to survive.
 - What a whale shark’s external features are.
 - Where they live.
 - How they move about.



Creative arts

- Create a classroom wall mural representing the three different ecosystems and including the marine life of the whale shark, manta ray, sawfish, sea snake, humpback whale, frogfish, stingray, blind gudgeon, blind scorpion, dugong, turtles, and underground cave insects.
- Explore Dreamtime stories and highlight Indigenous art and language in the form of posters, murals, and poems.

ACTIVITIES

CONTINUED



Language arts & humanities

- **As a class**, watch the three episodes of Tim Winton's ABC Australian documentary, 'Ningaloo'. Explain that it was written and narrated by the world-renowned WA author, Tim Winton. Invite students to share their thoughts, feelings and impressions of Tim Winton's documentary and why they did/didn't like it.
- **Discuss:** Would you prefer to swim with a whale shark or a manta ray? Share opinions in small groups before discussing the following video as a class: <https://www.youtube.com/watch?v=cic3psuRVdw> (Tim Winton swimming with a whale shark). Alternatively, watch the video: <https://www.youtube.com/watch?v=lfS3rFzoYUQ> or watch the Octonaut's episode on whale sharks. <https://www.youtube.com/watch?v=i2zoDtmOWp0>

Indigenous language & culture

- Meet Hazel Walgar, a cultural advisor on Aboriginal people who have had a connection to the Ningaloo region for more than 30 000 years. 'We belong to the emu spirit Dreaming. The emu is a creator. He is our creator,' Hazel Walgar explains. 'There are Dreaming sites not only on land, but in the ocean,' Hazel tells us. Watch and listen to Hazel sharing yarns, traditional songlines, and stories about Ningaloo at: <https://baiyungudreaming.com.au/>
- Hazel's ancestors hunted and fished along the coastline. She shows us parrotfish teeth in ancient middens. We stop in the dunes and watch Gav pick up a large shell, weathered white by years in the sand. He digs, and soon water begins to flow into the hole. It's not sea water; it's fresh, as a taste-test proves. Have students summarise the main ideas in this video.
- The Baiyungu people view the emu as the creator and sustainer of diversity. Have students research Baiyungu Dreaming, Ningaloo Coast's first Indigenous tourism business. Challenge them to design a brochure or poster, advertising what Baiyungu Dreaming offers.

OPPORTUNITIES TO MONITOR STUDENT LEARNING



- **Challenge** students to create a collage, poster, storyboard or book about a visit to Ningaloo, Exmouth Gulf and Cape Range.
- **Explore** Dreamtime stories and ask students to create a storyboard about one of them.
- **Make** a word search with vocabulary from the book.
- **Recall** the different sounds of the consonant digraph NG.
- **Draw** a mind map with the various consonant digraph NG spelling patterns.
- **Play** a game with unknown words from the book and identify meanings.
- **Use** dictation to reinforce the learning of correct spelling patterns.
- **Practise** new words in a poem or a cinquain.



SUPPORTING READERS WITH PHONEMIC AWARENESS

- **Distinguish** between a vowel and a consonant digraph.
- **Identify** the pronunciation and sound of the consonant digraph NG.
- **Ask** learners to recall the different and various spelling patterns of the consonant digraph NG sound.
- **Draw** a mind map of the different spelling patterns in the book.
- **Review** the consonant digraph NG and display the different positions in each word.



PHONICS SCOPE

(VICTORIAN EDUCATION DEPARTMENT)



LEARNERS IN GRADES 1 TO 3 read texts that contain varied sentence structures, some unfamiliar vocabulary, and a significant number of high-frequency sight words. They recognise a wide variety of letter– sound relationships, and self-correct using knowledge of phonics, syntax, punctuation, semantics, and context. They listen for particular purposes and manipulate sound combinations and rhythmic sound patterns.

Grade 1 Language

- Use short vowels, common long vowels, consonant digraphs, and consonant blends when writing, and blend these to read single syllable words (ACELA1458).
- Understand that a letter can represent more than one sound and that a syllable must contain a vowel sound (ACELA1459).
- Understand how to spell one- and two-syllable words with common letter patterns.
- Segment consonant blends or clusters into separate phonemes at the beginnings and ends of one syllable words (ACELA1822).

Grade 2 Language

- Understand how texts are made cohesive through language features, including word associations, synonyms, and antonyms (ACELA1464).
- Understand the use of vocabulary about familiar and new topics and experiment with and begin to make conscious choices of vocabulary to suit audience and purpose (ACELA1470).
- Orally manipulate more complex sounds in spoken words through knowledge of blending and segmenting sounds, phoneme deletion and substitution in combination with use of letters in reading and writing (ACELA1474).
- Understand how to use knowledge of digraphs, long vowels, blends, and silent letters to spell one and two syllable words including some compound words (ACELA1471).
- Use most letter-sound matches including vowel digraphs, less common long vowel patterns, letter clusters and silent letters when reading and writing words of one or more syllable (ACELA1824).
- Understand that a sound can be represented by various letter combinations (ACELA1825).
- Use comprehension strategies to build literal and inferred meaning and begin to analyse texts by drawing on growing knowledge of context, language and visual features and print and multimodal text structures (ACELY1670).

Grade 3 Language

- Understand that languages have different written and visual communication systems, different oral traditions, and different ways of constructing meaning (ACELA1475).
- Understand how to use letter–sound relationships and less common PHONICS SCOPE letter patterns to spell words (ACELA1485).

DECODING AS A PATHWAY



IN ORDER TO BECOME

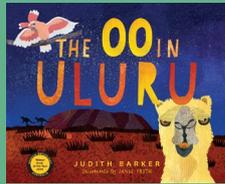
READERS, children learn the systematic relationship between code (letters) and sounds, including knowledge of letter and spelling patterns to correctly pronounce written words. In coming to understand these relationships, children are given the ability to recognise familiar words quickly and to figure out words they haven't seen before. With 44 sounds in the English language and hundreds of ways to spell them, the mind boggles! This series of phoneme-themed stories will help to reinforce the teaching and learning of phonemic awareness with the different and various spelling patterns of the long vowels (digraphs) in a fun and meaningful way.

TEN TIPS FOR READING SUCCESS

Some strategies for supporting beginning readers are:

- 1** Use context and pictures to monitor sound, letter, and word recognition.
- 2** Sound out letters, identify high-frequency words (common, or sight words) in stories.
- 3** Use repetition often to consolidate the teaching and learning of sounds and letters.
- 4** Support the teaching of spelling by helping children to understand that sounds create different letter combinations.
- 5** Help children to sound out unfamiliar words and encourage self-correction.
- 6** Support children to make predictions, to identify the main idea in paragraphs, and to practise summarising.
- 7** Teach children the separate sounds in a name, eg Sam has three sounds S-a-m.
- 8** Ask your child to clap with you as you sound out the syllables in words, eg wonderful has three syllables won-der-ful.
- 9** Take turns to come up with words that rhyme or sound the same. Play sound and word games, such as I Spy with sounds and letters.
- 10** Provide opportunities for reading a variety of texts, to obtain meaning from sounds, letters, and words.

BOOKS IN THIS SERIES



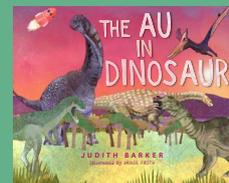
The OO in Uluru



The I in the Island



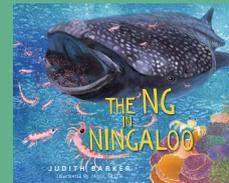
The EE in the Deep Blue Sea



The AU in Dinosaur



The O in the Snow



The NG in Ningaloo



The A in the Rainforest



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For further information on purchasing copies of these books or to have a message forwarded to the author, please contact (02) 8445 2300 or info@woodslane.com.au