

SHARKS

U P C L O S E



TEACHERS' NOTES

BLURB

Sharks are some of the most effective hunters on the planet. Take an up-close look at these predators that have outlived dinosaurs.



WRITING STYLE



Sharks Up Close addresses the student reader, inviting them into the unique world of sharks. The text takes complicated facts about sharks and simplifies them as much as possible to suit the upper primary reading level. Each spread is dedicated to a particular theme, such as history, species, life cycle and habitat. Each theme is covered in a paragraph or two, aiming to inform but not overwhelm the reader.

IMAGES

Most people won't get up close to a shark – and for good reason! However, with the high-quality photographs in *Sharks Up Close*, students will get to study these fascinating creatures in detail. The images on each spread link directly to the information in the text and are designed to anchor students' discovery of unfamiliar concepts in visual cues.



CURRICULUM LINKS

Australian Curriculum

AC9SFU01
AC9S1U01
AC9S3U01
AC9S4U01

Victorian Curriculum

VC2S2U01
VC2S2U02
VC2S2U03
VC2S4U01
VC2S4U02

LEARNING AREAS

English/Literacy
Science
Biology
Evolution
Geography
Conservation and Sustainability
Australian History
Indigenous Studies

DISCUSSION QUESTIONS

Before reading *Sharks Up Close*

- Read the title. What is the book about?
- What is meant by 'Up Close'?
- Can you identify the author of the book?
- What can you find out about the images in the book? What sort of images are they? What does this tell us about the genre of this book?
- Read the blurb. What does it tell us about sharks?
- Discuss what students already know about sharks. Have students seen a shark before, in the wild or in an aquarium?

Where do sharks live?

What do they eat?

What type of animal is a shark? (fish)

- Can students think of any other books or movies that depict sharks? How are they depicted?

While reading *Sharks Up Close*

- Ask the students to take turns reading a paragraph aloud to the rest of the class.
- Make a list of words that the class doesn't recognise while reading the book. Alternatively, look them up in the dictionary as you go, to better understand the text.

After reading *Sharks Up Close*

- Identify the basic needs of a shark. Answers might include food and habitat.
- Sharks are fish. What other fish can students name? What features do they have in common with sharks? How are they different?
- Despite their fearsome reputation, sharks are an important part of the ecosystem. Have students discuss the role sharks and other apex predator species play in the food chain. Answers may include controlling populations of prey and invasive species, and preventing disease by eating sick and dead animals.



- Some shark populations have declined significantly in the past 50 years and many species are now endangered. Discuss the reasons a species (not strictly limited to sharks) might be at risk of extinction. Answers might include pollution, hunting, habitat loss and decline of prey species.
- Despite international promises to protect the world's oceans, only about 3 percent are currently protected from fishing and mining. Discuss why such protections are important and how they can help ecosystems and species recover. Consider factors such as habitat, food, pollution and hunting.
- Discuss how students might help protect sharks.
- *Sharks Up Close* mentions some of the cultural relationships with sharks from Australia. Invite students to research these connections more deeply, or to investigate other beliefs from cultures around the world.



ACTIVITIES

Research task: Shark biology (poster or powerpoint presentation)

Sharks have many features that help them survive and hunt. Ask students to pick an interesting biological feature of sharks from the list below (or research one of their own), and ask them to present that biological feature to the class, explaining how it helps sharks hunt, survive, etc:

- **Lateral Lines:** Sharks possess rows of pores called lateral lines that run from snout to tail. These lateral lines detect changes in water pressure.
- **Electroreception:** Mucus-filled pores on their snouts — called the Ampullae of Lorenzini — allow them to detect electrical fields.
- **Smell:** In some species, nearly a quarter of a shark's brain is dedicated to smell.
- **Skin:** Dermal denticles, are more like teeth than the scales of other fish.
- **Teeth:** Sharks shed an enormous number of teeth — some species can go through 30,000 teeth over the course of their lives.
- **Skeleton:** Sharks are cartilaginous fish, which means that they don't have bones. Their skeletons are made up of cartilage and connective tissue.
- **Camouflage:** Sharks come in various colours to blend in with their environments.

Research task: Shark species (poster or powerpoint presentation)

There are many species of shark. Ask students to pick one from the list or to research one of their choosing. Ask them to create a presentation focusing on their chosen species' appearance, size, behaviour, habitat, reproductive cycle and location.

- Hammerhead Shark
- Great White Shark
- Whale Shark
- Greenland Shark
- Oceanic Whitetip Shark
- Goblin Shark

Build a food chain

The shark is an apex predator, which means that it sits at the top of the food chain. Discuss ecosystems and then ask students to research a location where sharks live and build a hypothetical food chain. For example: **The Great Barrier Reef**.



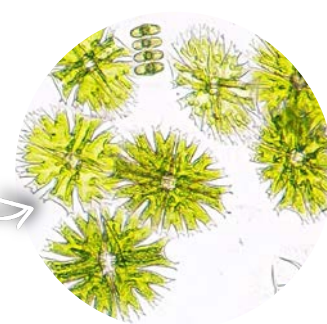
Shark



Fish



Crab



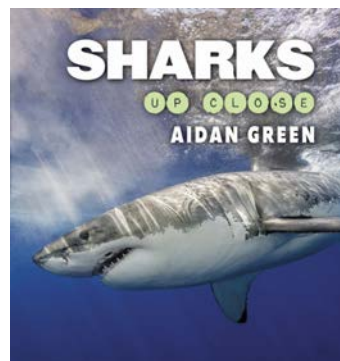
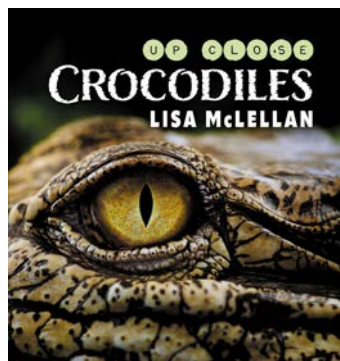
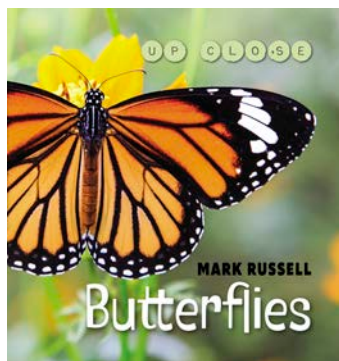
Plankton

ONLINE RESOURCES

- <https://www.worldwildlife.org/species/shark/>
- <https://www.aims.gov.au/docs/projectnet/sharks-01.html>
- <https://australian.museum/publications/sharks/what-is-a-shark/>
- <https://www.sharks.org/species>
- <https://www.msc.org/species/sharks>
- <https://sharkmates.com.au/who-we-are/>

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