

A guide to supporting students completing the **primary** SharkSmart workbooks

SharkSmart

The Shark Management Strategy provides valuable and authentic learning as an example of science and technologies in everyday lives. It also provides an opportunity for students to understand one of the roles that government plays in their lives. The SharkSmart workbooks were developed to guide teachers and students in exploring the work of the NSW Shark Management Strategy. This guide is for parents and teachers supporting students in completing the workbooks – it tells you where the answers are!

The answers to the work books can all be found in either:

- The SharkSmart website (<https://www.sharksmart.nsw.gov.au/>) and embedded videos
- The NSW DPI Fisheries YouTube channel (<https://www.youtube.com/user/NSWFisheries/playlists>)
- The NSW DPI Fisheries Facebook page (<https://www.facebook.com/NSWDPIFisheries/>)

Many of the answers to the activities are also available on other websites as there is a lot of information published about sharks and the marine environment. This is a good exercise in online research for students, but always ensure that reputable websites are being used. Check the publisher is a person or organisation with the qualifications or experience to have made the claim and whether they have validated their claims. The ability to critically evaluate research material found online is an essential skill that students need to develop for their personal and academic development.

Stage 1 / Years 1 and 2

Page 3 What are sharks?

In the video What is a shark and how are they adapted to the ocean environment? Dr Amy Smoothey states clearly which of these is a shark (they are fish). Link: <https://youtu.be/FNag-MQTBS8>

The questions at the bottom of the page are intended to get students to think about sharks. There is no right or wrong answer.

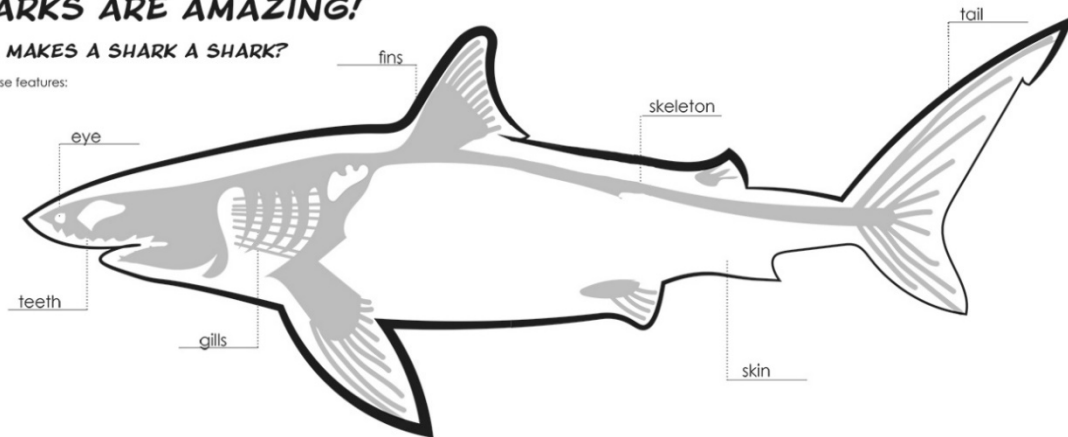
Page 4-5 Sharks are amazing!

In the video What is a shark and how are they adapted to the ocean environment? Amy describes the features of a shark. The correct locations for these are:

SHARKS ARE AMAZING!

WHAT MAKES A SHARK A SHARK?

Label these features:



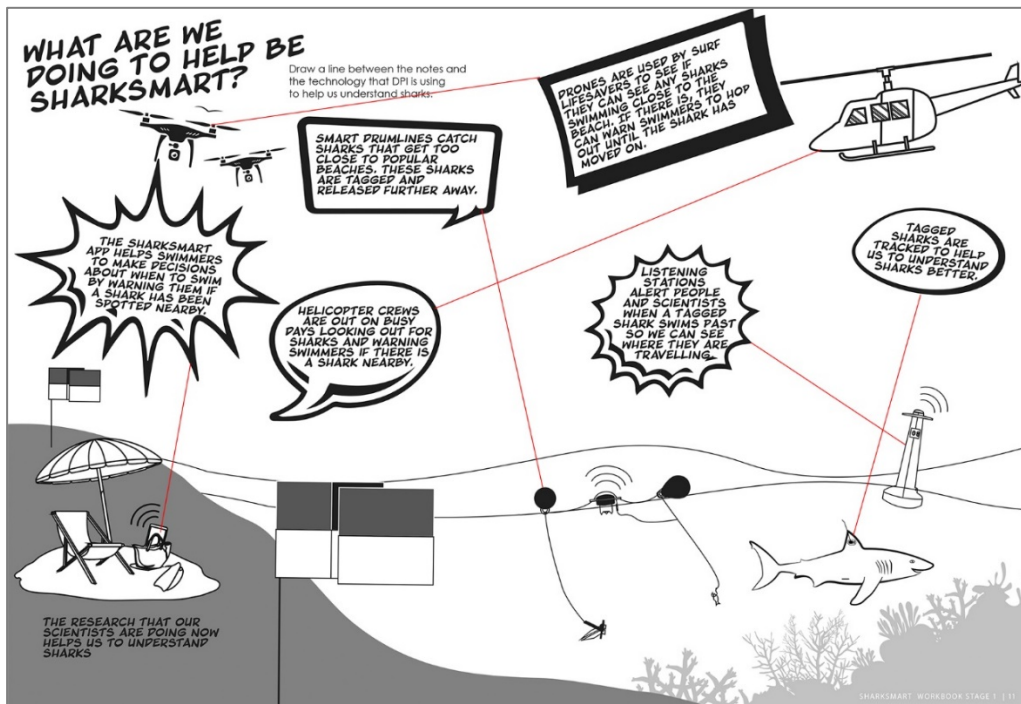
Again, the questions are aimed at encouraging students to think about sharks and how they would go about finding the answers to questions, it cues them into the content on the next pages.

Page 7 Tools of the trade

The information and videos on the Technology, trials and research webpage on the SharkSmart website will help students complete this page. Link:

www.sharksmart.nsw.gov.au/technology-trials-and-research.

Page 10 and 11



Last page

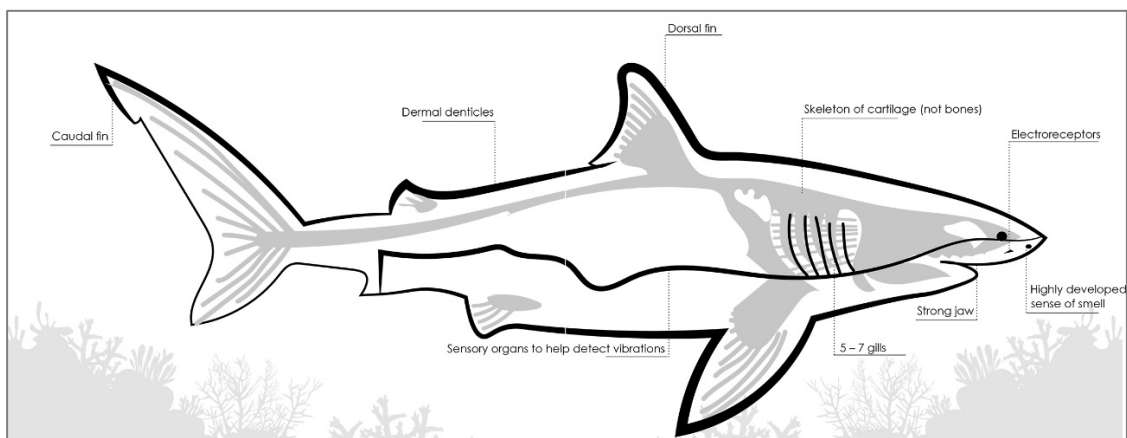
This page is for students' own thoughts about sharks and beach safety - although all of the suggestions are ways of being safe – and SharkSmart - at the beach.

Stage 2 and 3 / Years 3 to 6

Pages 4 to 6

In the video What is a shark and how are they adapted to the ocean environment? Dr Amy Smoothey states clearly which of these is a shark (they are fish). Link: <https://youtu.be/FNag-MQTBS8>

She also describes the features of sharks, where they are located and how those adaptations help shark survive in the ocean.



Page 10 What does the research tell us?

~~Three hundred~~ / **Three** out of 400 species of sharks found in Australian waters are known to be potentially dangerous to humans.

White sharks are known to travel huge distances and are not ~~permanent~~ / ~~temporary~~ residents in any one location. Some juvenile White sharks are known to move regularly up and down the coast from ~~Northern Territory~~ / **Victoria** to New South Wales and Queensland while others seem more random. Shark #28 travelled nearly 40,000km in three years.

Bull sharks can live ~~in rivers~~ / **lakes** and nearshore areas. Juveniles tend to stay in the rivers where they were born until they are large enough to join the adults in the open ocean and ~~major harbours~~ / **inland lakes**. Bull sharks have been tracked moving between New South Wales and Queensland closer to the coast line. Many travel ~~north~~ / **east** for winter. Shark #20 travelled >3050 km in a year and a half.

Tiger sharks prefer ~~warm~~ / **cold** oceans and open water. Tracking shows tiger sharks spend ~~more~~ / **less** time in open water than bull sharks.

Page 11 How does the research help us decide what we should do?

Answers below.

Match the scientific finding or shark behaviour with the SharkSmart recommendations:

Avoid the water at dawn and dusk.	1	7	Sharks are able to sense blood in the water and it may attract them.
Avoid swimming after heavy rainfall.	2	14	Nets are designed to entangle sharks so it's best to keep clear.
Avoid swimming near bait balls or fishing activity.	3	2	Runoff from rainfall often contains nutrients that attract fish to feed which can then attract bigger fish like sharks.
Swim between the flags at patrolled beaches.	4	10	Sharks and dolphins often feed together on the same food.
Tell an on-duty lifesaver or lifeguard if you spot a shark near swimmers or surfers.	5	5	Lifesavers can warn swimmers of the presence of a shark and suggest that they leave the water.
Don't swim too far from shore.	6	6	Sharks are more likely to be beyond the surf zone.
Don't swim with bleeding cuts or wounds.	7	1	Many sharks feed at dawn and dusk.
Always swim, dive or surf with other people.	8	8	If you get into trouble, your friend can help you.
Avoid murky water, waters with known effluents or sewage.	9	3	Sharks are attracted to bait balls and fish activity due to the availability of food.
Do not rely on sightings of dolphins to indicate the absence of sharks.	10	13	Sharks may sense or be attracted to your pets splashing and activity.
Be aware that sharks may be present between sandbars or near steep drop offs.	11	11	Sharks cruise in gutters or deeper waters to ambush their prey.
Avoid swimming in canals and swimming or surfing in river/harbour mouths.	12	15	Some shark deterrent products have been scientifically tested and shown to deter sharks.
Avoid having pets in the water with you.	13	4	Surf lifesavers are on the lookout for any dangers including sharks, rips and dangerous surf and can help if you get into trouble.
Do not swim/surf near or interfere with shark nets.	14	9	The nutrient in murky water and water containing effluent may attract small fish.
Consider using a personal deterrent.	15	12	Bull Sharks can be present in these waters that are often very murky.

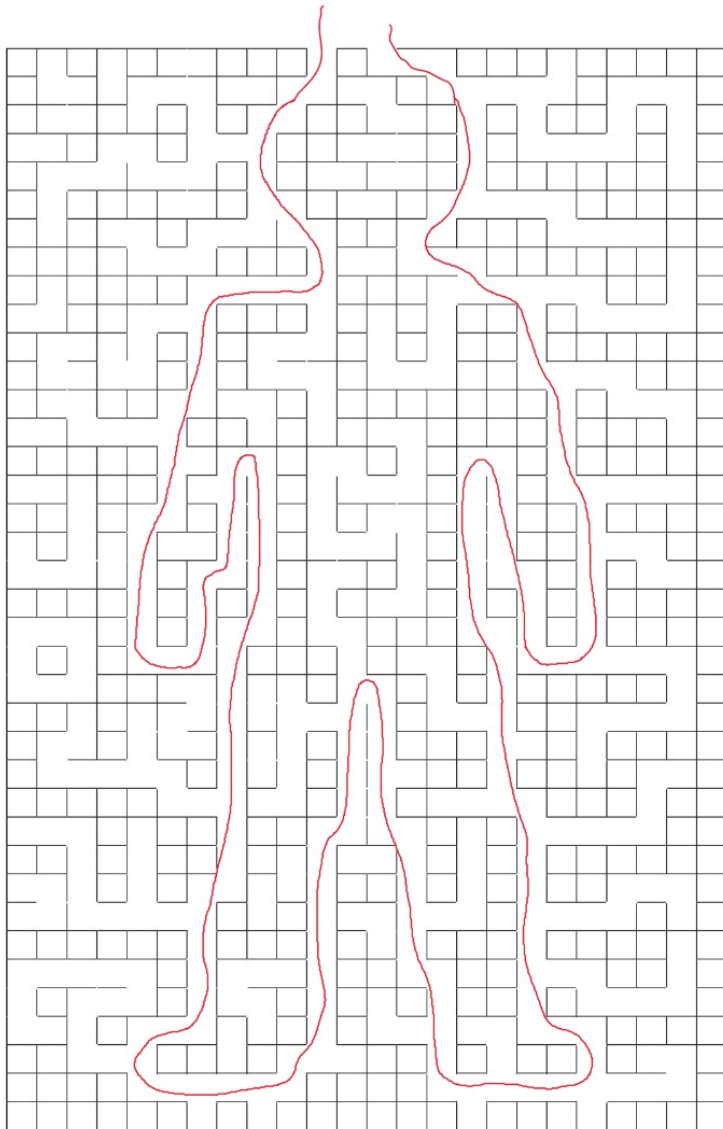
Page 12 and 13 What are we doing to keep sharks and people apart?

Information about the technology being trialled is available on the SharkSmart website Link: <https://www.sharksmart.nsw.gov.au/technology-trials-and-research>

Maps of the movements of tagged sharks are shown in the video NSW tagged as a world leader in shark program. Link: <https://youtu.be/qk7ZUXSpS1c> (also on the Shark Activity pages of the website).

Page 16 Sharks in the ecosystem

The solution to the maze shows the shape of a person (below).



Pages 17 and 18

Hopefully this workbook, SharkSmart website and social media pages have helped students to see sharks as a valuable part of the environment and one that they would like to be part of looking after. These pages aim to get students thinking about how their actions can impact on the marine - and terrestrial - environments. They will also research organisations and innovations already making a difference.

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