

PROGRAM NOTES



YEARS 3 – 6

The following program notes have been designed to assist teachers during self-guided visits, and provide an educational and informative guide about many of the animals at Melbourne Aquarium. The program notes are accompanied by a worksheet that can be completed by students during their two-hour self-guided tour.

Included in the program notes are the answers for the student worksheet, extra information about some of the animals, and an extension question for each section. You may choose to discuss these questions during your visit, or use it as a post visit activity once you returning to school.

Suggested timing guide for the visit and general focus of student worksheet:

Antarctica – 20 mins: Program focus - observe, classify and identify survival techniques for this habitat.

Weird & Wonderful – 20 mins: Program focus - observe and identify the different homes of animals that live in similar environments.

River to Reef: Program focus - observe and describe characteristics of different aquatic habitats. Identify effects of human influence on different water systems.

Cave – 15 mins

Billabong and Rockpools – 20 mins

Coral Atoll, Jellies and Octopus Cove – 15 mins

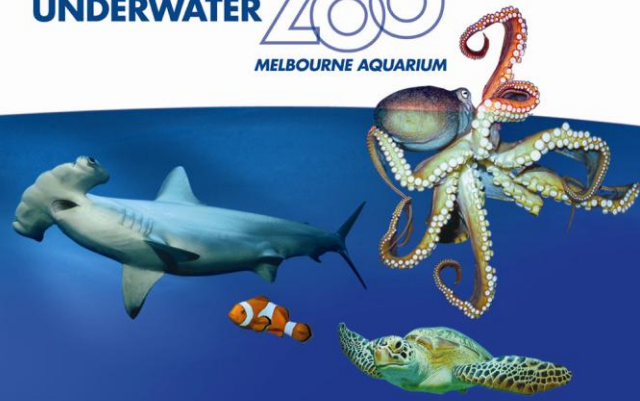
Sharks Alive – 20 mins: Program focus - observing and comparing differences and similarities between closely related aquatic animals.





VELS LEVEL 3 & 4: AREAS COVERED

STRAND	DOMAIN	DIMENSION
Physical, Personal & Social Learning	Interpersonal Development	<ul style="list-style-type: none"> • Building social relationships • Working in teams
	Civics & Citizenship	<ul style="list-style-type: none"> • Community awareness
Discipline Based Learning	English	<ul style="list-style-type: none"> • Reading • Writing • Speaking and listening
	The Humanities - Geography	<ul style="list-style-type: none"> • Geographical knowledge and understanding
	Mathematics	<ul style="list-style-type: none"> • Number
	Science	<ul style="list-style-type: none"> • Science knowledge and understanding
	The Arts	<ul style="list-style-type: none"> • Creating and making
Interdisciplinary Learning	Communication	<ul style="list-style-type: none"> • Listening, viewing and Responding
	Thinking Processes	<ul style="list-style-type: none"> • Reasoning, processing and inquiry • Reflection, evaluation and metacognition



ANTARCTICA

A HABITAT IS THE PLACE WHERE AN ANIMAL LIVES.

LIST THREE FEATURES OF THE PENGUINS' HABITAT HERE AT MELBOURNE AQUARIUM.

1. ICE

2. ROCK

3. WATER

The Penguins **polar** habitat at Melbourne Aquarium is made up of **ice, snow, rocks, water** and of course **penguins**. Although in Antarctica the temperature can drop to -89°C , the habitat at the Melbourne Aquarium is kept between -4°C to 3°C to ensure that our keepers are able to safely feed and take care of the animals.

CIRCLE THE TYPE OF HABITAT

Desert

Polar

Forest

There are two species of penguins at Melbourne Aquarium:

King Penguin	Gentoo Penguin
Black and white, with yellow detailing on their front and head.	Black and white, with orange feet and beak.
Largest penguin at Melbourne Aquarium (Second largest in the world)	Smallest penguin at Melbourne Aquarium (Third largest in the world)

Draw a penguin. Show and label at least three ways that a penguin stays warm in its polar habitat.

1. Feathers In order to **keep warm** penguins have a layer of small-inner **feathers** used as insulation; they keep themselves **fat**
2. Fat/Blubber (**build-up of fat/blubber**) to retain heat; their feathers have a **oil-type coating**, similar to other aquatic birds (ducks, pelicans), that helps repel water when swimming.
3. Oil-Coating

What do humans have to wear to live in the same conditions?

(Moving into the next section of Antarctica there are two mannequins dressed in official Antarctic uniform.)
Main features of the uniform include: **highly-visible colour; no skin exposed at any time; multiple layers; material made out of Gortex.**

Extension Question: What are some of the habitat differences between these Antarctic penguins and the Little Penguins that live in Port Phillip Bay? Little Penguins live in a warmer environment. They generally swim in water 13 to 20°C and their land habitat includes sand, rocks, shrubs and bushes. A Little penguin would not be able to survive in Antarctica as they would freeze and be blown away in the Antarctic high winds (up to 300km).

Real life example: Could your pet cat survive in the Amazon Rainforest?





WEIRD & WONDERFUL

WHEREABOUTS DO I LIKE TO LIVE?

FIND ME AND WATCH MY BEHAVIOUR. THEN DRAW ME IN MY HOME ACCORDING TO THE CLUES BELOW.

Lobster • Cuttlefish • Moray Eel • Clown fish • Sea Dragon

IN THE SEAWEED

SEA DRAGON

Their appearance is very similar to seaweed

ON THE OCEAN FLOOR

CRAB LOBSTER

They are floor dwelling creatures. They move by using their legs and catch prey using their claws/pincers.

MOST OF MY BODY HIDES IN A HOLE

MORAY EEL

Eels are nocturnal, and are often seen during the day with head looking out from a crevice or hole in the reef.

They have large mouths with long jaws, and some have venomous fangs on the roof of mouth.

IN ANOTHER ANIMAL

CLOWN FISH

Symbiotic relationship - the Clown fish protects itself from the painful, toxic stinging of the anemone by covering themselves in a unique type of mucus, that tricks the anemone and stops it from firing off its stingers.

SOMEWHERE THAT LOOKS LIKE ME

CUTTLEFISH

Cuttlefish have the fastest camouflage technique in the world. They change their colour to look like their surroundings to distract and confuse prey as well as to attract a mate.

Choose one animal and explain how the animal is suited to living in its habitat.

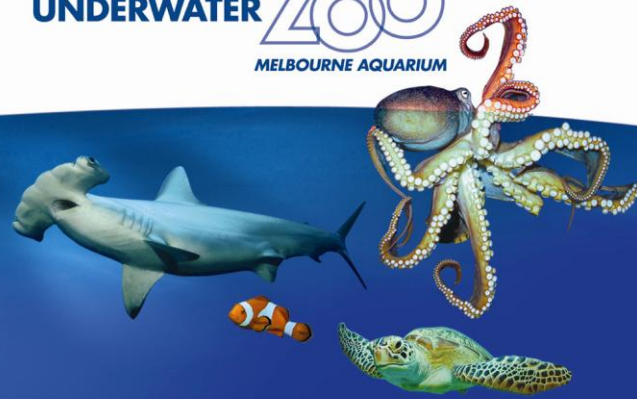
These creatures have chosen their homes as they have adaptations that help to protect them from predators and that are suited to their homes.

Extension Question: Despite living inside an animal, an anemone, that stings other creatures (including humans) what is one of the biggest threats to Clown fish at the moment?

Since the release of 'Finding Nemo' in 2003 there has been a large demand on pet stores to sell Clown Fish. Often Clown Fish are illegally caught, using cyanide which harms not only the Clown Fish, but also its surrounding habitat. Tropical fish are hard to take care of, and often Clown Fish do not survive very long. The numbers of Clown Fish in the reefs are dropping dramatically. To help prevent this from happening we can ask pet stores for collection licences when buying animals, and ensure that the correct habitat is set up at home for the animal to live in.



RIVER TO REEF



COMPLETE THE TABLE BELOW TO SHOW THE FOLLOWING INFORMATION:

- A description of the habitat – including both living and non-living features; and
- A list of the animals that live in the habitat

	HABITAT DESCRIPTION	ANIMALS THAT LIVE IN THIS HABITAT
BILLABONG	Cold fresh-water with rocks, plants, logs, tree roots, oxygen and sunlight	Animals include: Long-necked Turtle, Mary River Turtle, Murray River Turtle, Short-finned Eel, Long-finned Eel, Eel-tailed Catfish, and Merton's Water Monitor.
LAGOON	Warmer brackish water (a mixture of salt and fresh water) with a stony bottom, plants, logs, tree roots and overhanging features can cause the habitat to be dark	Animals include: Barramundi, Freshwater Sawfish, and Spear-tooth Shark
ROCKY REEF	Cold salt water with coral, rocks and sand; tidal movements and waves can create isolated pockets of water	Animals include: A range of sea star species; sea urchins; sea cucumbers; hermit crabs; spider crabs; small fish; stingaree; Port Jackson Shark; sea anemones; elephant snails; sea snails and Flounder
CORAL ATOLL	Warm salt-water, with coral, sand, rocks, oxygen, sunlight.	Animals include: Parrot fish; Unicorn fish; Blue-green Chromis; Red Trigger Fish; Leopard Shark; Leopard Ray and Spotted Eagle Ray. (occasionally Green Sea Turtle and Blue Spotted Stingray)

How are humans changing the habitats of these water creatures?

Due to fishing, pollution, and the introducing foreign species, the quality of water is declining. By over-fishing, some species numbers are diminishing which disrupts the food-chain of the water creatures. Introduced species, such as the European Carp, can often dominate over native species, by eating their prey.

Extension Question: What are some ways we can help conserve our waterways?

Through education, awareness, and action, we can stop the water quality deteriorating further.

We need to stop catching native species and reducing their numbers. Stop polluting our waterways, use sustainable products, and recycle and dispose of waste appropriately. And stop introducing foreign species, such as the European Carp, which cause problems for our native species.



SHARKS ALIVE



COMPLETE THE VENN DIAGRAM BELOW

to show the similarities and differences of a Grey Nurse Shark and a Smooth Stingray

GREY NURSE

SMOOTH STINGRAY



Sharks: In the Oceanarium at Melbourne Aquarium you can find three large species of sharks: Grey Nurse shark, Scalloped hammerhead shark and Sandbar Whaler shark. Other species of shark that live at Melbourne Aquarium are the Port Jackson shark, Spotted Wobbegong shark, Whiskery shark, Leopard shark, and the Tawny Nurse shark, they are smaller in size and are often found at the bottom of the display. The Fiddler Ray is often confused for a shark, but because its gills are located on the underside of its body, it is a ray and not a shark.

Stingrays: In the Oceanarium at Melbourne Aquarium you can find two large species of stingrays: Smooth stingray and the Southern eagle ray. Other species of stingray that live at Melbourne Aquarium include the Blue-spotted stingray; the White-Spotted eagle ray and the Fiddler ray.

SHARKS ALIVE



In what water system would you find a Grey Nurse Shark or Smooth Stingray?

Beach

River

Coral Reef

Deep Ocean

In which level of the water column would you typically find a Grey Nurse Shark swimming?

Top

Middle

Bottom

What does a Grey Nurse Shark eat?

Fish

Crab

In which level of the water column would you typically find a Smooth Stingray swimming?

Top

Middle

Bottom

What does a Smooth Ray eat in this part of the ocean?

Fish

Crab

Extension Question:

Are the sharks and stingrays at Melbourne Aquarium dangerous to humans?

None of the sharks or stingrays at Melbourne Aquarium pose immediate threat to humans. Although the teeth of the Grey Nurse Shark look dangerous they are unable to swallow anything larger than a medium fish. Stingrays only use their defensive barb when they feel threatened– this can occur when someone accidentally stands on them or swims too close above them.

