Whales – Beneath the Surface
Teacher Resource

Year Levels: Years 3 – 5

Concepts:

- **Form** - What are the features of whales?
- **Function** - How do whales communicate?
- **Change** - How have whales adapted to survive in their environment? How have whaling practices changed over time?
- **Perspective -** Why do different cultures engage in whaling
- **Connection -** How have cultures viewed and interacted with whales, now and in the past?

Inquiry Skills:

Questioning and predicting, processing and analysing data and information and communicating

Australian Curriculum Outcomes:

	Science	HASS
Year 3	• Living things can be grouped on the basis of observable features and can be distinguished from non-living things. • Science knowledge helps people to understand the effect of their actions. • Represent and communicate observations, ideas and findings using formal and informal representations.	**Diverse communities and places and the contribution people make** • Locate and collect information and data from different sources, including observations. • Examine information to identify different points of view and distinguish facts from opinions. • Interact with others with respect to share points of view. • Reflect on learning to propose actions in response to an issue or challenge and consider possible effects of proposed actions.
Year 4	• Living things have life cycles. • Living things depend on each other and the environment to survive. • Natural and processed materials have a range of physical properties that can influence their use. • Science knowledge helps people to understand the effect of their actions.	**How people, places and environments interact, past and present** • Locate and collect information and data from different sources, including observations. • Examine information to identify different points of view and distinguish facts from opinions. • Interact with others with respect to share points of view. • Reflect on learning to propose actions in response to an issue or challenge and consider possible effects of proposed actions.
Year 5	• Living things have structural features and adaptations that help them to survive in their environment • Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions • Scientific knowledge is used to solve problems and inform personal and community decisions	**Australian communities - past, present & possible futures** • Locate and collect relevant information and data from primary sources and secondary sources • Examine primary sources and secondary sources to determine their origin and purpose • Examine different viewpoints on actions, events, issues and phenomena in the past and present • Interpret data and information displayed in a range of formats to identify, describe and compare distributions, patterns and trends, and to infer relationships • Evaluate evidence to draw conclusions • Work in groups to generate responses to issues and challenges

Education Session Outline:

- Engage in a facilitated, hands on learning session to unpack the historical and scientific concepts outlined above.
- Participate in debates to examine different viewpoints on the actions, events and issues whales face now and in the past.
- Engage with the exhibition and work collaboratively to solve a whale challenge.
- Play a collaborative game to develop an awareness and understanding of the relationship between whales, other marine animals and the environment.

Pre / Post Visit Learning Engagements:

Write a glossary of whaling related words:

Subsistance	Sustainability	Ecosystem	Scrimshaw
Echolocation	Adaptation	Conservation	

Whale Science

What have scientists learnt from studying whales?

- Size comparison chart: Create a pictorial chart that shows a number of different whale and dolphin species in order of size (length). Students devise their own key for the scale. You can extend this into a physical outdoor numeracy activity (using materials such as pegs and string to "peg out" the length of each whale), measuring outside on a school oval or against a hall or gym building to create a visual graph. The graph should be labelled by creating cardboard titles with the name and length of each whale, also pegged into the ground or on a wall.
- Try this Blubber Investigation to see how whales adapt to freezing water temperatures.
- Create a diorama depicting the food web of a species of whales.
- View the video showing how the sperm whale uses echolocation to feed on giant squid.

Cultural Connections

How have cultures viewed and interacted with whales, now and in the past?

- Read the Aboriginal story, *Kondili the Whale – A Ramindjeri and Kaurna story* and discuss what messages the story portrays about how to behave, the environment and spirit world. Retell the story in words and later through art, drama, song.
- Locate Antarctica on a map or globe of Earth. Discuss what students know about its climate and conditions. How cold might it get? Refer to the average maximum temperatures for Mawson Station.
- Antarctica is known as the driest and windiest continent. Why might this be? It also has winters with a period of no or limited hours of daylight. It has summers with long hours of daylight. Think about how these conditions impact daily life.
- View the gallery of Antarctic images that show the types of conditions that are encountered.
- Find out which cultures (Inuit peoples of Greenland, Alaska and Canada) live in the Artic Region and research their main food sources. Compare their culture and environment with traditional Indigenous Australians living remotely. (Diet, housing, hunting methods, climate, languages, clothing, celebrations and art and craft)
- Put yourself in the shoes of the Lamaleran people.
  - Why is hunting whales important to you and your family?
  - What actions do you, the Lamaleran's implement to ensure whale hunting is sustainable?

Conservation

Why is whale conservation important? ***What actions are in place to protect whales?***

- Despite the global ban of commercial whaling, Japan uses the provision in the 1946 whaling convention which allows whales to be killed for scientific purposes. The 'scientific whaling' provision has also been used by Norway and Iceland as a way of getting around the rules. However little, if any useful information comes from 'scientific whaling' and it is quite simply commercial whaling conducted under the guise of science. Whaling countries issue their own catch limits, not the International Whaling Commission.
- Watch BTN segment to learn more about Japanese Whaling and discuss: Is there a better way to undertake scientific research?
- Write a letter to the Prime Minister of Japan outlining your views on their 'scientific whaling' practices. Offer at least 3 alternative methods scientists can use to monitor and research whale populations and behaviour.
- Research other animals that are endangered due to poaching/hunting practices though viewing posters about conserving and protecting animals from poaching for human gain. Choose an animal that needs protection and create a poster to persuade others to stop poaching. Support your poster with an information flyer about your animal and the threats it faces.
- You are an anti-whaling activist. Write and film a passionate speech encouraging the community to implement actions to protect whale species and their habitats. Ensure you use action words, emotions, images and facts and figures to support your argument/position.
- Write an article for your school newsletter about whales and current threats to whale populations. Educate readers on what they can do to reduce harm to whales and their habitats.

Historical Connections

How and why were whales hunted in the past?

- Create a timeline on the history of commercial whaling including technology and methods.
- Create a poster/billboard advertisement - advertising a whale product – think of your audience, images and language and historical contexts.
- Plastic was invented to help replace the need for using ivory for corsetry and buttons.
  Research the harmful effects of plastic on the marine environment and human health. Create a podcast to promote messages.
- Investigate Australia's whaling history. How were whales used in the past? How is this different to today? Why did it change?
- What is the Australian government's current position on whaling?