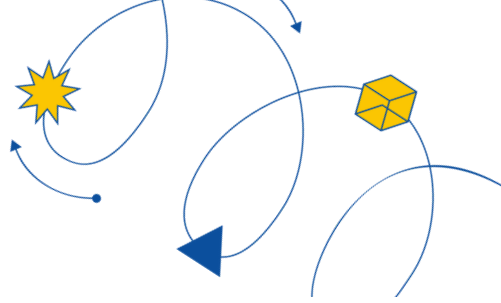


Mini Select: Ocean Giants



**SCIENCE
ALIVE**

Whales are the largest animals to have ever lived on Earth — isn't it amazing how different they can all be from one another but also share so many similarities? Each species has unique features that help it survive in the moana (ocean). This mini could spark curiosity about whale types, adaptations, behaviours, and their role in marine ecosystems.

OBSERVE:

1. Āta titiro (look carefully) at the images of whales.
2. Encourage ākonga to whakaaro (think) about what they can see. Consider the following pātai (questions):
 - What do you notice about the size and shape of the whales?
 - What details can you see when you look more closely? Think about the colours and patterns.
 - What features stand out to you the most?
 - Can you name the different whale species?
3. Encourage ākonga to use precise language to describe what they observe, rather than inferences or opinions, and use questioning to help them focus on the details.
4. Ākonga share their observations (you might choose to write these down).

SELECT:

1. Using their observations, encourage ākonga to find similarities and differences between the different whales.
2. Ākonga āta kōwhiri (carefully select) the image they think might be different from the others.
3. Ask learners to give reasoning with 'I think this whale species is different because...'
4. Reflect on thinking:
 - Could there be more than one answer? Why or why not?
 - What new ideas or questions do you have now?

Science Alive Learning Portal

This printable supports an online resource found on the Science Alive learning portal.

Explore hundreds of interactive resources across a range of topics, all completely free.



Scan the QR code to visit the lesson library:

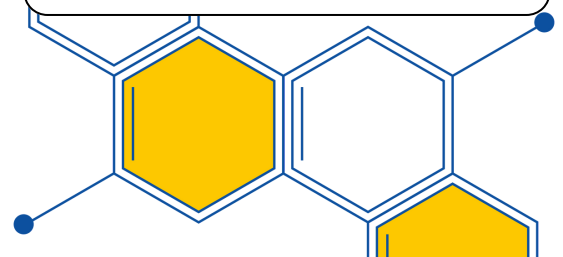
www.sciencealive.co.nz

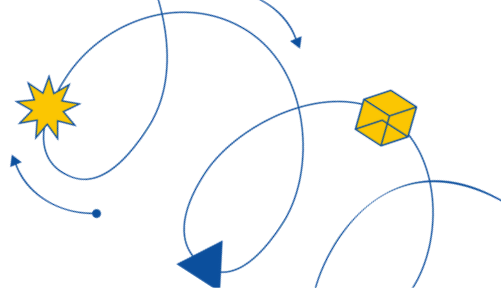
DISCUSS:

- What features might help each whale survive in its environment?
- Which whale do you think is the biggest? Smallest? What makes you think that?
- Do you think all whales eat the same food? Why or why not?
- What advantages might a whale's size give it in terms of survival?

This lesson was developed with generous support from NEX and NZASE.

www.nzase.org.nz





DISCOVER THE SCIENCE:

Whales are a diverse group of **marine mammals** within the **cetacean** group, which includes both **baleen whales and toothed whales**. Like all mammals, they **breathe air** through lungs, are **warm-blooded**, and **nurse their young**.

Baleen whales use **baleen plates** made with keratin to **filter-feed on plankton and krill**, while toothed whales use **echolocation** to hunt prey such as **fish and squid**. Species such as humpbacks are baleen whales, while orca, sperm whales, beluga, and narwhals are toothed whales — each **adapted** in unique ways to their **environments and diets**.

With adaptations such as **blubber** for energy and maintaining body heat, efficient **oxygen storage** for deep diving, and **streamlined bodies** for swimming, whales are highly specialised for **survival** in marine ecosystems.

COMMON MISCONCEPTIONS:

Students' prior knowledge can help them connect with new ideas, but it can also lead to misconceptions if their earlier understanding is inaccurate. Below are some possible misconceptions that may arise from the images used in this mini:

"Whales are fish."

The Science: Whales are mammals, not fish. They breathe air through lungs, give birth to live young, nurse their babies with milk, and are warm-blooded.

"Whales can breathe underwater."

The Science: Whales must surface to breathe air through their blowholes. They cannot breathe in oxygen from water like fish do.

"All whales eat the same food."

The Science: Whales have different diets based on what they have in their mouth. Baleen whales have baleen plates that filter tiny krill or plankton from the water, while toothed whales have teeth and hunt fish or squid.



Connect: Ocean Giants

SCIENCE
ALIVE

MATHEMATICS



Younger tamariki could be given a set of cards showing different whale species and asked to sort them by size, from smallest to largest.

Senior ākonga could follow this [Humpback whale migration calendar](#) to map the whales' journey around the Pacific Ocean. As an extension, they could also graph the average distance they travel each month.

TECHNOLOGY



Younger learners could use an app like Book Creator or Seesaw to make a class e-book with pictures and simple facts about different whales.

Older ākonga could pair up to create 15 quiz questions about whales, then use an online platform like Kahoot! to bring it to life and test their classmates' knowledge.

LITERACY



Junior ākonga could create a class word wall of whale-related vocabulary (e.g., tail, blowhole, pod). Then, using this vocabulary, write a simple descriptive short story about a day in the life of a whale.

Senior learners could research one whale species and write an information report on it including physical appearance, habitat, diet, behaviours and adaptations.

FUTURE FOCUS



The skills and knowledge developed in this mini could inspire learners to explore pathways beyond the classroom! If your ākonga were engaged in this activity, it could be a great opportunity to connect with experts or someone from your local community to learn more. You could also explore the skills and school subjects involved in some of the related careers listed below:

- Marine Biologist
- Aquarium Specialist
- Conservationist
- Environmental Educator

