

Whale Classification & Food Chains

STUDENT ACTIVITY

There are two different groups of whales, those that have teeth (called the **toothed whales**), and those that have no teeth (called the **baleen whales**).



Look Out for These Keywords...

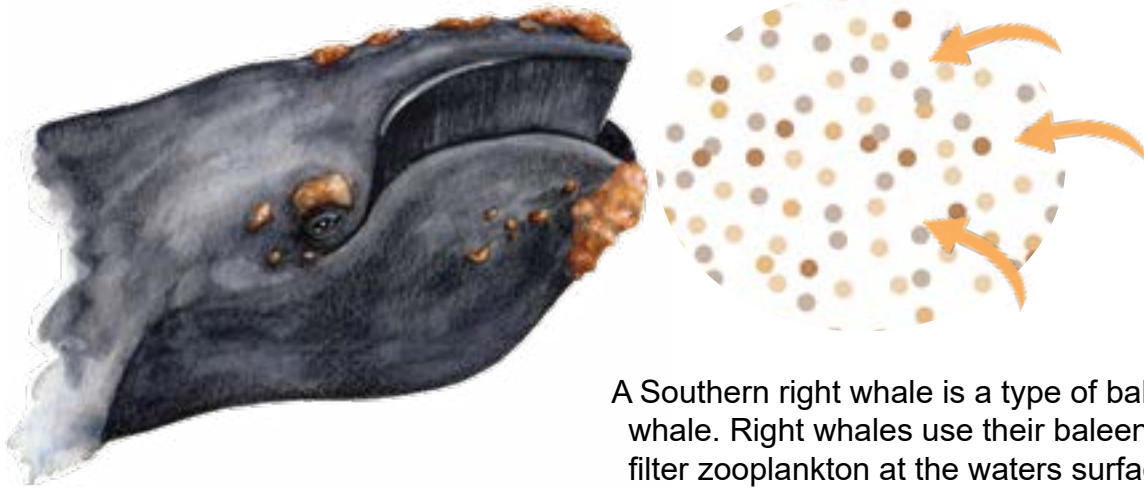
- Adaptation** - a feature of the body that helps an animal survive in its environment
- Blubber** - a thick layer of fat under the skin
- Crustaceans** - large group of animals which includes crabs, prawns and shrimps
- Predator** - an animal that eats other animals
- Prey** - an animal that is hunted, caught and eaten by another animal



Baleen Whales

Baleen whales are **predators** that sieve zooplankton including tiny **crustaceans** such as krill, and small fish from the water using comb-like structures called baleen that are attached to the upper jaw.

As they feed, baleen whales gulp large amounts of water and **prey**. Using their tongues, they push out the water leaving behind krill and fish trapped in their baleen.



A Southern right whale is a type of baleen whale. Right whales use their baleen to filter zooplankton at the waters surface.

There are 15 species of baleen whales found throughout the world. These include the blue whale, the largest animal to have ever lived. Blue whales grow to 25m and can weigh up to 200tonnes.



Blue Whale

25m



Humpback whales are another type of baleen whale. There are different populations of humpback whales found in the northern and southern hemispheres of the world.

Humpback whales feed in the cold waters of Antarctica and the Arctic during the summer months where their **prey**, krill and small schooling fish are abundant.

Humpback whales make some of the longest migrations of any mammal in the world. Some travel over 10,000km each year from their feeding grounds in colder Polar regions to their breeding grounds in tropical regions.



Krill

Humpback whales can eat up to 2,000kg of krill each day when they are in their feeding grounds.

Humpback whales can eat up to 2000kg of krill each day when they are in their feeding grounds. To keep warm in the ocean and to store energy, whales have a layer of fat called **blubber**. This layer is also an important source of energy. During their yearly migration humpback whales rarely eat and use the energy stored in the fat of their **blubber**.



Toothed Whales

Toothed whales are **predators** that use their teeth to hunt larger **prey** such as squid and fish. Toothed whales live in all oceans of the world. Some even live in rivers.

There are 65 different types of toothed whales. The largest toothed whale is the sperm whale that grows to 19m and can weigh up to 41 tonnes. Dolphins and porpoises are also toothed whales.



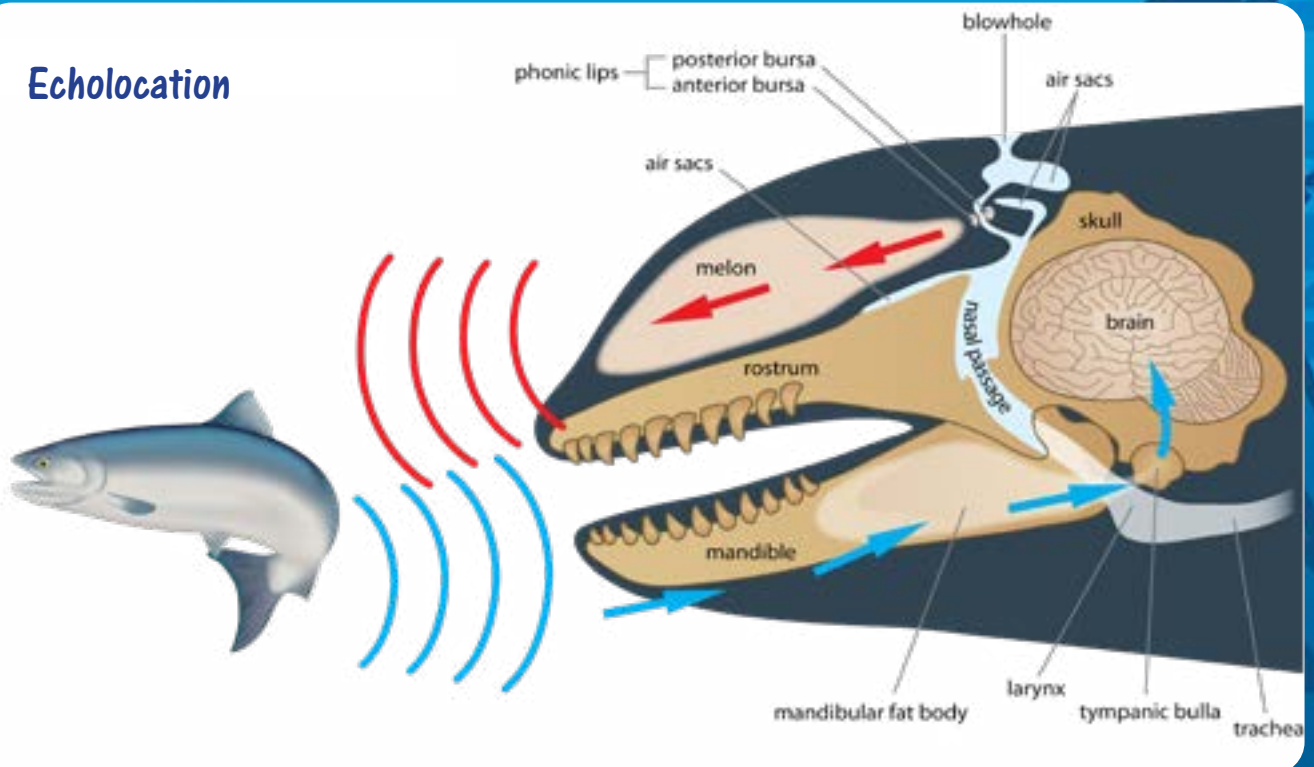
Sperm Whale

19m

Toothed whales have a special **adaptation** called echolocation. By producing a series of clicks and interpreting the echoes that bounce off objects the toothed whales can find the location of their **prey**.



Echolocation

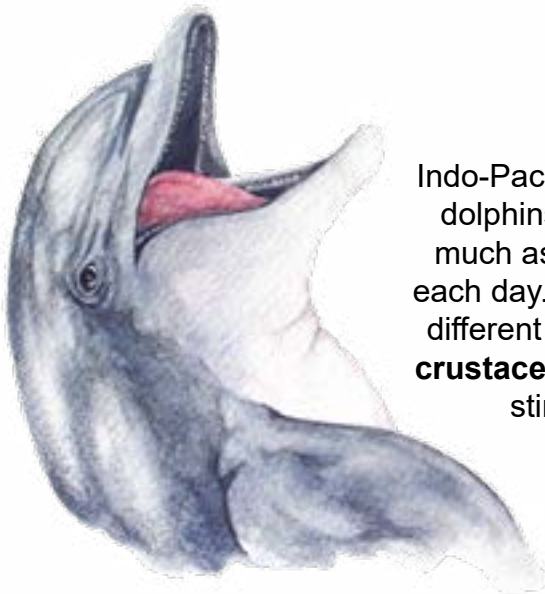


A *Indo-Pacific bottlenose dolphin*

is another type of toothed whale that is found in tropical and temperate coastal waters of the Indian and Pacific Oceans.



Indo-Pacific bottlenose dolphins don't migrate. They instead stay in small home ranges close to the coast. Some live in shallow bays, beside reefs, others near to rivers and estuaries or near surf zones.



Indo-Pacific bottlenose dolphins can eat as much as 9kg of food each day. They feed on different types of fish, **crustaceans** and even stingrays.



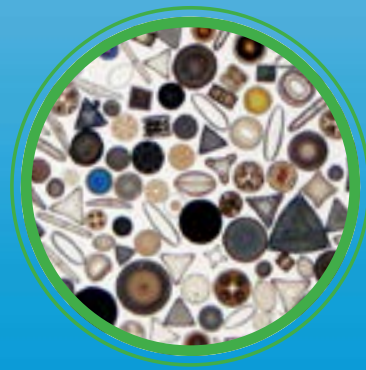
Food Chains

Plants use light energy from the sun to make their own food and are always at the start of a food chain. Phytoplankton are microscopic plants and plant-like organisms that drift in the oceans and are eaten by tiny animals called zooplankton. Zooplankton are eaten by small fish, larger fish and mammals. Krill are an example of zooplankton.

Complete the two food chains by using the words in the box below.

sun	phytoplankton	zooplankton	fish	humpback whale
		bottlenose dolphin		

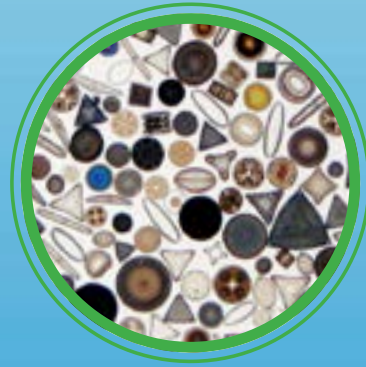
1. BALEEN WHALE FOOD CHAIN



2. TOOTHED WHALE FOOD CHAIN



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Questions

1. Why are plants the most important part of a food chain?
2. Using the food chains for the baleen whales and toothed whales what changes would occur to other species if the zooplankton were to disappear?
3. Why is it important that all species in a food chain have a healthy environment to live in?



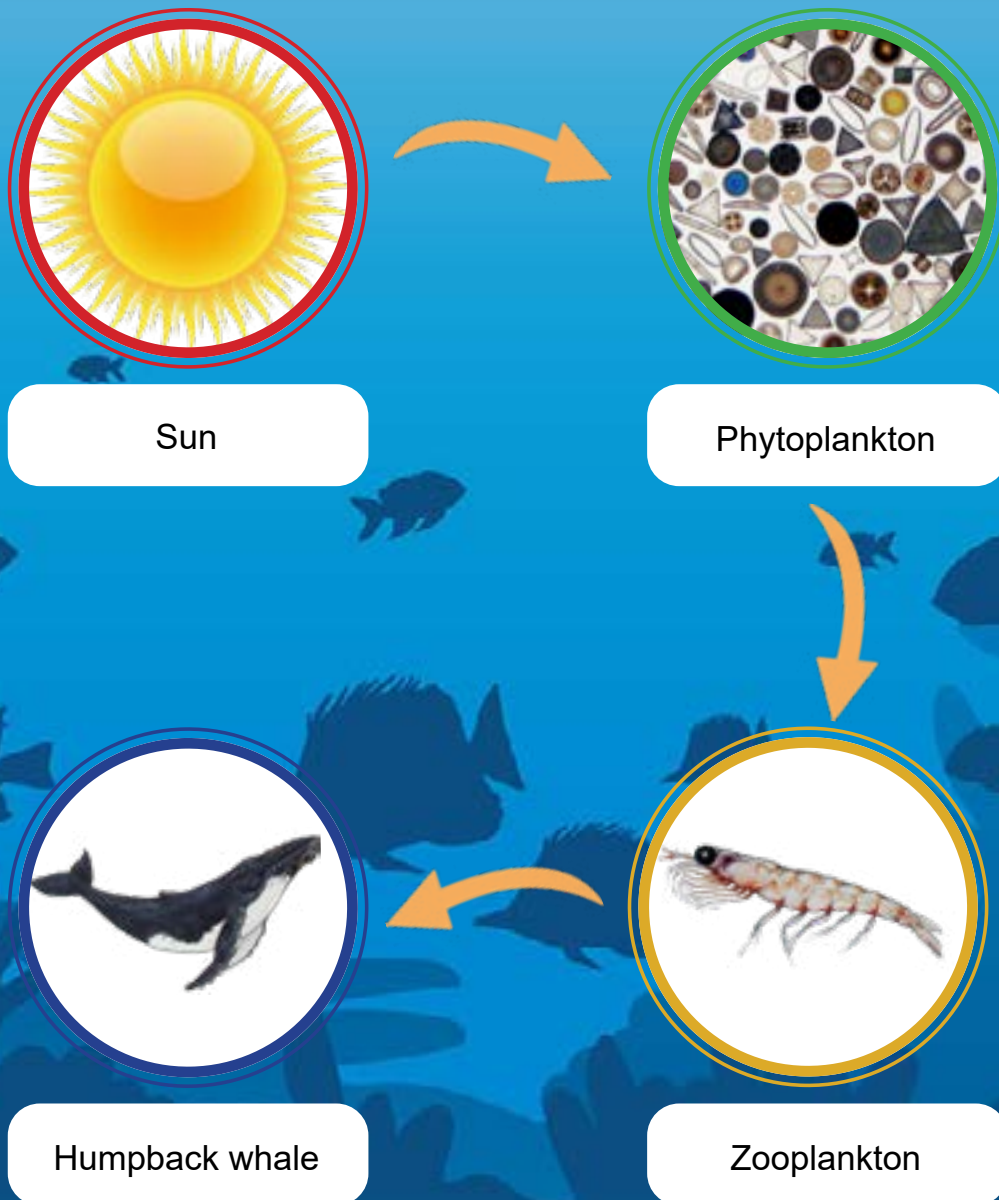
Food Chains

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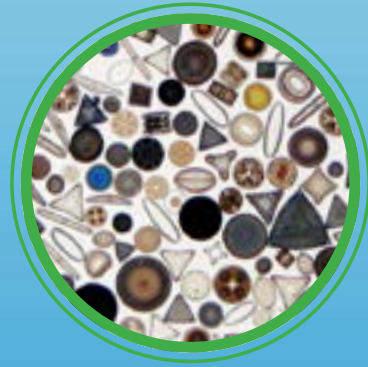
1. BALEEN WHALE FOOD CHAIN



2. TOOTHED WHALE FOOD CHAIN



Sun



Phytoplankton



Bottlenose dolphin



Fish



Zooplankton



Questions

1. Why are plants the most important part of a food chain?

Answer: Plants use light energy to make their own food. Animals cannot make their own energy and must eat plants or animals that eat plants to survive.

2. Using the food chains for the baleen whales and toothed whales what changes would occur to other species if the zooplankton were to disappear?

Answer: If the zooplankton were to disappear in the baleen whale food chain, the humpback Whale would not have any food to survive. If the zooplankton were to disappear in the toothed whale food chain then the fish would not have any food to survive. If the fish disappeared the dolphin would also not survive.

3. Why is it important that all species in a food chain have a healthy environment to live in?

Answer: A healthy environment is important for the survival of all the species in a food chain. All plants and animals require clean air, water, and soil to survive. When a species dies out or becomes low in numbers, many other species in a food chain cannot survive.



Additional resources

Learn about different whale and dolphin species: <https://www.dolphinresearchaustralia.org/learn-about-dolphin-whales/dolphin-whale-species-fact-files/>

Download more fun activities, fact sheets and more: <https://www.dolphinresearchaustralia.org/fun-activities-downloads/>

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Illustrations of humpback whales, bottlenose dolphins, krill, sea mullet, sperm whale, blue whale, right whale, tooth, baleen, by E. R. Hawkins (Instagram @mermaid_tale_designs).
Illustration of echolocation by Uko Gorter.

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