

KIDS CORNER

THE BLUE WHALE

This presentation aims to teach you about the blue whale.

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THE BLUE WHALE

What is a Blue Whale?

The Blue Whale, like all whales, is a marine mammal and a member of the baleen whales. It is the largest animal to have ever lived on the planet, more than twice the size of the largest dinosaur, and females are larger than males. The blue whale also lives longer than nearly any other animal—typically 80 to 90 years, and scientists estimated the age of the oldest one ever encountered to be approximately 110 years.

Despite its massive size, the blue whale is amazingly graceful as it moves through the water. People who have observed them have likened their movements to an aquatic ballet and often describe them as majestic. The blue whale is also surprisingly fast. It's capable of reaching 50 km per hour over short distances, though its typical travelling speed is 20 km per hour and it slows down to as little as 5 km per hour while feeding. When they're on the move, they tend to stay approximately 13 m below the surface to reduce avoid the drag on their bodies from the waves above them. The deepest known dive by a blue whale was 506 m.

Blue whales can be found in the Antarctic Ocean, Atlantic Ocean, Indian Ocean, and the Pacific Ocean. During most of the year, they prefer colder regions where the krill they feed on is plentiful. They migrate regularly toward warmer waters during the winter months, which is their breeding season.



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Blue Whale Appearance

The blue whale has an unmistakable silhouette. Its body is long and much more tapered than the bodies of other whales. Its head is flat and accounts for roughly one-quarter of the whale's total length. It has a pronounced ridge that stretches from the blowhole to the top of the upper lip. Its most distinctive feature is the 300 or so baleen plates that hang down about one meter from the upper jaw and extend from about 0.5 to 3.5 m into the whale's throat. These are covered with thick, coarse bristles and act like a sieve to strain krill from the water when the whale feeds. The grooves, or ventral pleats, that run lengthwise along the throat also play a role in the feeding process.

The blue whale's dorsal fin is small, typically 20-40 cm, and it is only visible briefly when diving. There are two blowholes, with a "splashguard" to shield them. The flippers are usually 3-4 m long and are grey on top and white on the underside. The blue whale's underside is usually pale yellow, but that colour actually comes from algae living on the whale's skin. The upper parts of the blue whale are actually more grey than blue. Although the impression from a distance is of a solid colour, the blue whale's skin is usually mottled in shades of dark blue, grey, and black.



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Blue Whale Behaviour

Blue whales are carnivores, feeding almost entirely on krill, small shrimp-like organisms. It takes a lot of these tiny creatures to satisfy a blue whale's appetite—approximately 40 million a day for an adult during the summer feeding season. The whale lunges into the water with its mouth open. The ventral pleats expand to allow the whale to take in an enormous amount of water. When the pleats contract the water is expelled, trapping the krill near the back of the mouth so that the whale can swallow it. Blue whales gorge themselves on krill in the cold waters of the Antarctic before migrating to warmer water, where krill is less plentiful, for the breeding season.

Females typically give birth to a calf every 2-3 years and nurse their offspring for six months. While mothers and calves remain together for some time, adult blue whales tend to travel alone or in groups of 2-3. They do not appear to live in larger groups like other baleen whales do. When larger numbers are seen together, it's usually in feeding grounds.

Scientists have been studying the vocalisations of blue whales for decades. The blue whale's calls are believed to play a role in navigation, recognition of other species and individuals, sharing information about the location of food, and other communications. Blue whales are not as vocal as humpbacks.



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Blue Whales in Popular Culture

The best-known blue whale in the world isn't even a real whale! It's the fibreglass and polyurethane model of a blue whale hanging from the ceiling of the American Museum of Natural History in New York City. The 24.4 metre, 336,000 kilogram model was installed in 1969. It underwent a "makeover" in 2003 to reposition its eyes and reshape its tail to appear more realistic and give it a fresh coat of paint. The annual spring cleaning it undergoes attracts a crowd of onlookers.

There are several Icelandic myths about whales outlining how to prevent them from swamping whaling boats and killing fishermen. One of them features a blue whale that protected the boats and the men in them by scaring away the "wicked" whales. It warned of their presence by swimming around a boat three times and, if all else failed, it would explode and drag the evil whales to their deaths.

Blue whales made news headlines in 2014 when nine of them were found frozen in ice off the coast of Newfoundland. A team from the Royal Ontario Museum towed one of the whale carcasses to land where the scientists studied and dissected it. The bones, heart, and tissue samples were taken to Ontario where the Blue Whale Project team began mapping the genome of the blue whale. The heart was plastinated to become the only blue whale heart to be put on display.



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Threats to the Blue Whale

The blue whale is an endangered species. The IUCN estimates that there are between 10,000 and 25,000 blue whales remaining. However, the National Ocean and Atmospheric Administration (NOAA) estimates that as of 2016 there were less than 5000 blue whales in existence, divided into three populations. For centuries, blue whale populations were targeted by whalers until commercial whaling was banned in 1986.

The threats to blue whales today are different, but no less deadly. The two biggest threats are the danger of being hit by ocean-going vessels and entanglement in fishing gear. The heavy shipping traffic in North America's St. Lawrence Seaway has left many blue whales with injuries and scars. Other threats include chemical pollution of the oceans, overfishing of krill, sound pollution, and habitat loss.

Climate change is a major concern because of its impact on the blue whale's food supply. As the oceans warm and become more acidic, krill populations may not be large enough to sustain the blue whale population. Scientists believe that the krill-rich areas will move southward, and blue whales will have to migrate as much as 500 km farther south for their feeding season. A longer migration path will take more energy, demanding more feeding, but in a shortened feeding season.



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Blue Whale Conservation

The blue whale was granted protection in 1966, 20 years before commercial whaling was banned worldwide. No blue whales are known to have been caught other than accidentally since 1978.

Satellite tracking has become an important conservation tool. It enables scientists to track the migratory routes and feeding grounds of the blue whale, which will help in the establishment of protected areas.

Measures have been implemented along the coast of California to prevent ship strikes. In some regions, acoustic pingers are being used successfully to drive blue whales and other marine mammals away from commercial fishing operations. The goal is to keep marine mammals from becoming accidental “bycatch” or getting entangled in fishing gear.

Thanks to conservation efforts like these, blue whale populations are slowly increasing. However, the blue whale remains endangered. Its numbers are still a small fraction of what they were before the whaling boom of the early 1900s.



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Blue Whale Facts

- The blue whale's tongue weighs as much as an elephant;
- Two thousand adult human hearts would fit inside the heart of the average blue whale;
- The blue whale can hold its breath for up to 35 minutes;
- A female blue whale is pregnant for nearly a year before giving birth to a calf that weighs between 2,267 to 2,722 kg and is over 7 m long;
- A blue whale calf gains approximately 100 kg every day for its first year of life, consuming nothing but its mother's milk;
- Scientists believe that blue whales can hear each other's calls from 1,609 km, but humans can't hear their vocalisations;
- A toddler can fit into the blowhole of a blue whale;
- Blue whales can be found in all of the world's oceans;
- A blue whale's arteries are large enough for a medium-sized dog to walk through comfortably (though the whale probably wouldn't find it very comfortable!).



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Australian Curriculum Mapping

GRADE 5 SCIENCE (ACSHE083): Scientific knowledge is used to solve problems and inform personal and community decisions.

GRADE 6 SCIENCE (ACSSU094): The growth and survival of living things are affected by the physical conditions of their environment.

YEAR 7 SCIENCE (ACSSU112): Interactions between organisms, including the effects of human activities can be represented by food chains and food webs.

YEAR 9 SCIENCE (ACSSU176): Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems.

YEAR 10 SCIENCE (ACHGK070): Human-induced environmental changes that challenge sustainability.

SUSTAINABILITY (01.2): All life forms, including human life, are connected through ecosystems on which they depend for their well being and survival.

SUSTAINABILITY (01.9): Sustainable futures result from actions designed to preserve and/or restore the quality and uniqueness of environments.



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