



Are whales Intelligent?

Some scientists believe whales to be highly intelligent animals. The humpback whale emits a sequence of long and complex sounds that lasts on average 10 to 12 minutes, repeating the sequence with small changes, similar to songs composed by humans. A recent study has suggested that dolphins are capable of self-recognition. In spite of everything we know about the habits of whales, there are still many mysteries left to discover about these incredible animals.

What is a whale?

All whales, dolphins and porpoises, belong to the scientific order Cetacea. In spite of sharing many common traits, whales are not fish but mammals. They are warm-blooded animals, they breathe air through their lungs, they give birth to live young and they nurse them. More than 80 species make up the Order Cetacea, which are classified into two suborders: the Mysticetes (the baleen whales) have baleen in their mouths and have two blowholes; the Odontocetes (the toothed whales, dolphins and porpoises) have teeth and a single blowhole. Their size and forms are variable. Whales lack hind limbs, the forelimbs have evolved into flippers, and the whale's tail (made of cartilage) is positioned horizontally, unlike a fish's vertical tail, enabling the whale to swim through the water by moving it up and down and displacing water.

Where do they live?

The whales live in all oceans. Many of them migrate, meaning they travel throughout the year between the territories where they feed in the summer and where they reproduce in the winter. Most whales feed in cold, polar waters rich in krill or other food sources. There they spend 4 to 6 months eating, accumulating an excess of blubber, or fat, which serves as a food reserve used during the breeding season in warmer waters, where food is often scarce.

How do they eat?

The toothed whales, which include the dolphins, porpoises, orcas and the sperm whale, feed on fish and squid. They do not use their teeth to chew, only to capture and tear their food. The baleen whales, including the right, blue and humpback whale, do not have teeth but baleen: a row of plates that hang like a curtain from both sides of the upper jaw. They feed on plankton, particularly on krill (tiny crustaceans similar to shrimp) or on small fish. The internal edge of each baleen plate is frayed, forming a sort of net or filter. The whales allow the water to enter their mouths and drain out again with their mouths open, or they use the pressure of their tongues to force the water back out of the baleen plates, which act as a filter in retaining the food left in the mouth after the water is expelled.

How Do They Breathe?

Like all mammals, whales have lungs. They must come to the surface periodically to breathe, as they cannot breathe under water. They take in air through their blowhole, essentially their nostrils, located on top of the whale's head; this allows them to breathe without lifting their heads out of the water. The baleen whales have two blowhole openings and toothed whales only one. When a whale dives, the blowhole stays closed. When coming to the surface to breathe, the whale exhales the air in its lungs with great force, and moisture from the exhalation forms a large vapor cloud, known as the whale's "blow" or "spout". All the whales are great swimmers and divers. They are able to hold their breath for extended periods of time; the sperm whale is the dive champion, able to hold its breath for up to two hours at a time, and dive to depths as great as two miles.





How can we help?

Speak with your family and friends about the existing problems in the oceans, so that there are more people conscientious of the matter.

Consume less, by reusing and recycling materials such as boxes, bottles and plastics to prevent them from becoming garbage. Use reusable cups and dishes. Everything made of disposable plastic winds up as waste.

Don't dump toxic products down the drain; chemicals that go down the drain gradually end up in the ocean. Read the labels on the cleaning products and other chemicals in your home to find out which are toxic, and try to avoid buying any products containing toxic chemicals.

Use alternatives to pesticides, herbicides, and fertilizers in your garden. Buy organic products which are grown without the use of harmful pesticides.

Pick up litter you see on the beach and other places.

Be cautious of the amount of water you use by not leaving taps on unnecessarily, water is precious and it is necessary to conserve it.

Write to your Senators and Representatives to let them know how you feel about important issues such as toxic pollution or whaling.

Most importantly, continue your interest in whales and dolphins. The more you know about these gentle creatures, the more you will be able to understand them and to help us to protect them.

No action which you can take is too little. The small contribution each one of us makes will allow us to help other people understand about whales and the problems that threaten their survival. You can make a difference!

What threats do whales face?

The Cetaceans have been on the Earth for approximately 50 million years, a length of time difficult to imagine. Today, many of them are in danger of extinction. To understand why, we must look at many of our own activities that affect the health of the planet, especially the oceans.

- **Contamination:**

Pollution affects the Earth in numerous ways. We throw garbage into the ocean, and runoff of chemicals, including industrial waste, pesticides and fertilizers, oil, metals, and sewage feeds into the oceans, harming all forms of marine life. The polluting agents that enter the sea do not remain in the water; they enter its inhabitants, ingested through what they eat and absorbed through their fat, passing up the food chain from one organism to another. For example, if krill is contaminated with pollution, it will contaminate the whales that feed on it. Other animals, like orcas, also will be contaminated when feeding on the fish that feed on that krill. Some toxicants that the whales absorb have been linked to diseases, birth defects, malformation of reproductive organs, and a weakening of their immune system in a fashion similar to the effect of AIDS on humans.

- **Fishing gear:**

Another threat whales face is entanglement in fishing gear. It is estimated that every day approximately 25,000 miles of fishing nets are thrown in the oceans, a length equivalent to the diameter of the Earth. Whales and dolphins are often accidentally caught in them, forcing them underwater and preventing them from surfacing to breathe, or preventing them from eating and killing them by starvation. Each year approximately 100,000 whales, dolphins, and porpoises are drowned in fishing gear, and thousands more bear the scars of entanglements.

- **Whaling:**

Sadly, whales were hunted in mass for many years. More than two million whales were killed between 1929 and 1979. When one species became depleted, the whalers simply switched to another species not yet exploited. At that time, before the widespread use of petroleum and plastic, the whales provided very valuable raw materials for objects of daily use. Soon, with the discovery of petroleum, a cheaper oil source, the most whaling ceased, but the damage was already done. Unfortunately, some countries still hunt whales under the guise of "scientific" whaling, or for the purposes of subsistence whaling. The International Whaling Commission, incorporated by several different nations, is the organization responsible for establishing regulations for the protection of the whales. Unfortunately, whaling nations such as Norway and Japan are fighting hard to allow for the resumption of commercial whaling, which would be disastrous for many species of whales were it to occur.



"You can't see a whale for the first time and not remember it for the rest of your life."

Roger Payne, President of the Ocean Alliance

