

SHARKS



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The Typical Shark

Although sharks come in many shapes and sizes, most people consider requiem sharks to be the most typical, like the blue shark on the opposite page. It has a lean body, a

long snout and pectoral fins, and a tail fin with an upper lobe that's longer on top than bottom. The narrow head and wide body make it easy for the shark to turn quickly.

ACTIVE REEF-DWELLER



The silvertip shark shares many characteristics with other requiem sharks and, apart from the white tips on its fins, looks much like many of the other gray requiem sharks

that are found out beyond the reef edges in warm tropical waters. It feeds on small fishes, squid, and octopuses that are commonly found in reef environments.



Blue shark

Silky shark



Angelshark



Mako shark

THREE OF A KIND

The blue shark and the silky shark are typical requiem sharks—fast swimmers with streamlined bodies. Mackerel sharks, such as mako sharks, are more round and stout, but are also powerful swimmers. Angelsharks, with flatter bodies, are more typical of slow-moving bottom-dwellers.



Breathing Underwater

Like humans, sharks need oxygen to survive. Instead of lungs, they use gills to pull oxygen from water and to breathe out carbon dioxide. Active sharks (such as requiem sharks) swim constantly, which keeps oxygen-rich water flowing into their mouths and over their gills. Less active sharks (like bottom-dwellers) have a pump that pulls water through their gills.

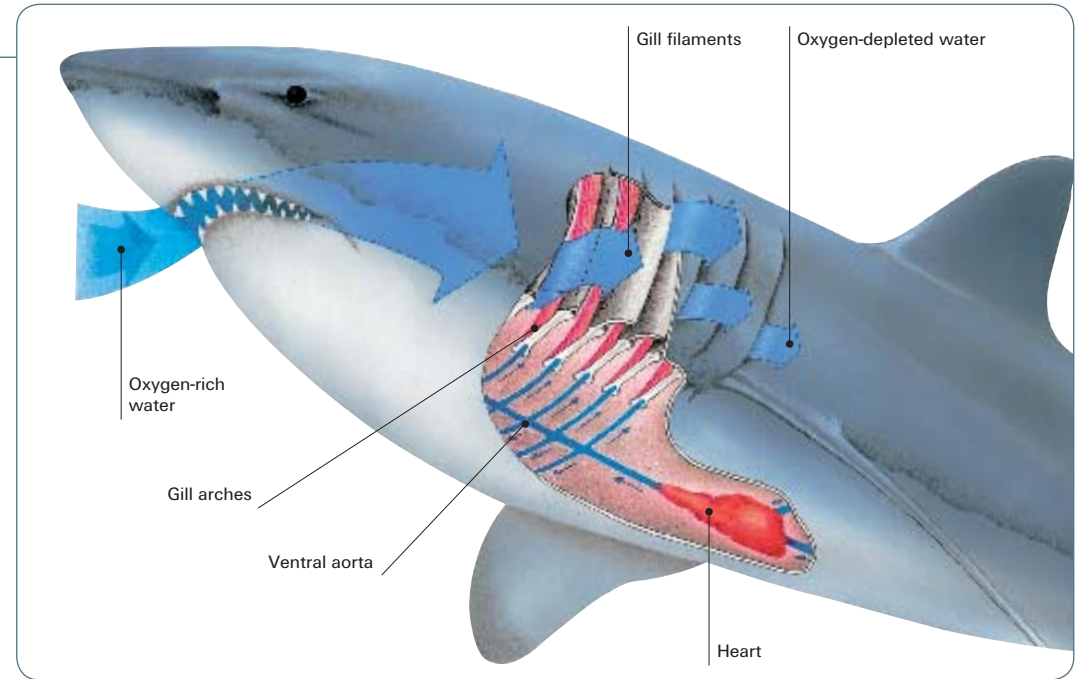


HOW A SHARK BREATHES

Oxygen-rich water enters the mouth and passes over the gills, which pull oxygen from the water. The oxygen-depleted water then passes out through the gill slits. Meanwhile, the shark's heart pumps blood into the gill arches, where it absorbs the crucial oxygen.

RESPIRATION HELPERS

When this whale shark breathes out carbon dioxide, its open gills reveal the thin, plate-like gill filaments just inside. These filaments absorb oxygen and supply it to the shark's body.





Tail Power

The tail, or caudal fin, is what moves most sharks through the water, propelling them forward by swinging from side to side. Tail sizes and shapes vary depending on the species, but most shark tails have two lobes, and the upper lobe is usually much bigger than the lower one. The size and shape of a shark's caudal fin is often a key to whether or not a shark has a busy, active lifestyle, or a sluggish, inactive one.

MAJOR MOTION

A whale shark has an enormous, powerful caudal fin. It needs this giant tail to thrust its huge body forward.



VARIATIONS ON A THEME

The tails of tiger and nurse sharks look most like the tails of ancient sharks. The thresher shark uses its long tail to strike prey. The porbeagle's short tail helps it cruise slowly, then suddenly speed up. The dangerous oceanic whitetip is identified by its white tail markings, while the cookiecutter's tail is typical of an active deepwater shark.

TIGER SHARK



NURSE SHARK



THRESHER SHARK



PORBEAGLE SHARK



OCEANIC WHITETIP SHARK



COOKIECUTTER SHARK





Sharks as Resources

Humans have many uses for sharks. Their meat is eaten or used for fertilizer, and their fins are made into soup. Oil rich in Vitamin A is taken from their livers, and blood-thinning chemicals from their blood. Their eyes provide corneas for transplants, and their cartilage has medical uses. A shark has likely provided meat for our tables, lubricant for our machines, fertilizer for our plants—even oil for makeup.



VALUABLE OIL

Shark liver oil, once prized as a lubricant and source of Vitamin A, has long been popular in Asia, renown for its healing properties. It is becoming more common in Western societies.

DELICIOUS FISH



Spiny dogfish shark



Smallfin gulper shark



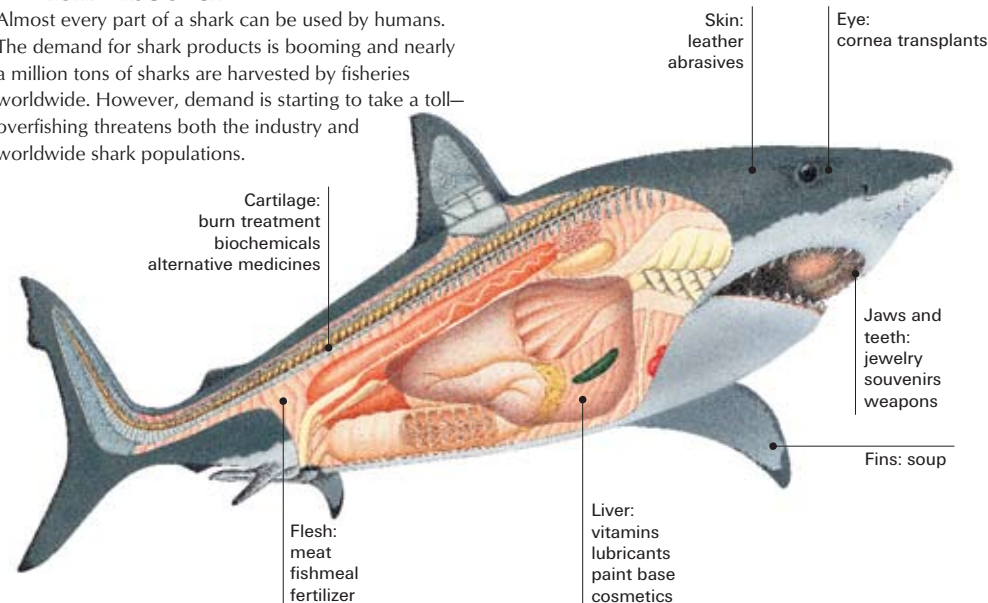
Soupfin shark

The meat of the sharks pictured here is tasty and nutritious, and is sold around the world.



A VALUED RESOURCE

Almost every part of a shark can be used by humans. The demand for shark products is booming and nearly a million tons of sharks are harvested by fisheries worldwide. However, demand is starting to take a toll—overfishing threatens both the industry and worldwide shark populations.



BLUE SHARK



Key Facts



♂ 8.25 feet (2.5 m)

Other names: Blue whaler, great blue shark, blue dog

Size at birth: 16 inches (40 cm)

Maximum length: 12.5 feet (3.9 m)

Diet: Fish, squid, and krill

Habitat: Oceanic, from the surface to 1,150 feet (350 m); close to shore in some locations

Distribution: All tropical and temperate seas



One of the most attractive sharks, the blue shark is found in the open ocean throughout the tropics and cooler seas. In the tropics it often enters deeper, cooler water, while in temperate coastal waters it comes close to the edge of kelp beds. Once the most plentiful shark in the sea, it is now endangered due to overfishing. It will attack humans without being provoked.

WHITETIP REEF SHARK



Key Facts



♀ 4.25 feet (1.3 m)

Other names: Blunthead shark

Size at birth: 21–24 inches (52–60 cm)

Maximum length: 7 feet (2.1 m)

Diet: Bottom fish, crustaceans, and squid

Habitat: A shallow-water reef dweller, to depths of 1,000 feet (300 m)

Distribution: Tropical eastern Pacific to eastern Africa; widespread in Oceania



These sluggish, slender requiem sharks live close to shore. During the day, they often rest in caves, particularly in Hawaii and the Galapagos Islands. They are active at night and during slack tides. They can become accustomed to the sounds of boats, and often approach divers out of curiosity. They are not aggressive to humans, but these sharks should be approached with caution.