



WORLD OF WONDER

Exploring the realms of history, science, nature and technology

SHARKS



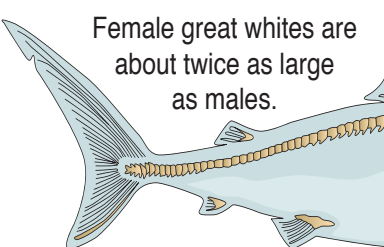
The **tiger shark** is a nocturnal predator and scavenger with keen eyesight and sense of smell. It will eat just about anything — including humans. It is named for the tigerlike stripes of juveniles.



The **great white shark** is one of the largest, most fearsome predators in the ocean. It hunts on the surface of the water and bangs into its prey while taking a big bite. It has several rows of teeth that can number into the thousands.

Some basics

Sharks are closely related to **skates** and **rays** and are **cartilaginous**. Cartilaginous fish have a skeleton made of cartilage instead of bone. Cartilage is a strong, flexible material — human noses and earlobes are made of this.



Female great whites are about twice as large as males.

Shark sense

Sharks have highly developed senses. In addition to taste, touch, sight, smell and hearing, sharks also have an **electrical sense** that can detect small electric signals of prey. Sharks can also detect vibrations made by animals moving through the water using a sense called **distant touch**.

Poor parenting

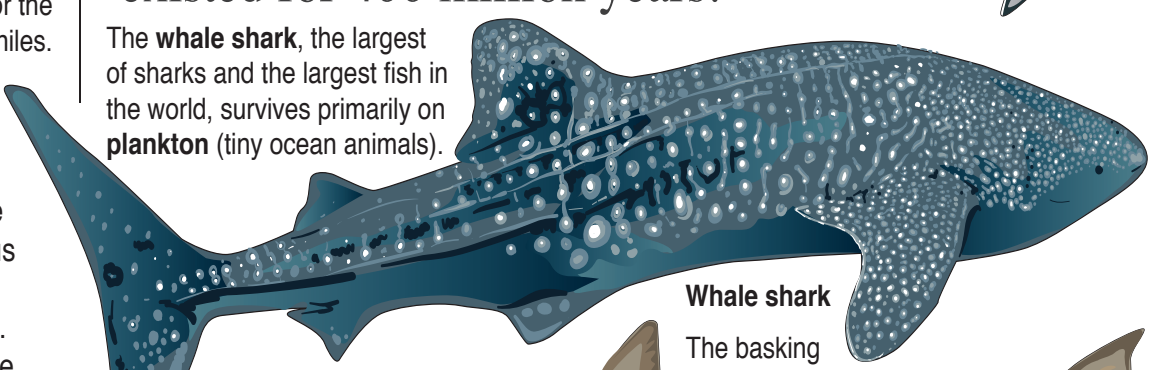
One of the ways that sharks differ from most fish is that sharks fertilize their eggs inside the mother. Some sharks then lay the eggs outside the body, but most give birth to live young. Sharks have long pregnancies, averaging between 9 to 12 months. Baby sharks are called **pups**. Sharks do not look after their young, and some even eat their babies. Pups begin to swim and hunt almost immediately after birth.

Teeth

Sharks have several rows of teeth; many have five to 15 rows. Some sharks have as many as 3,000 teeth at one time. New teeth move forward to replace old or lost ones. A missing tooth can be replaced in about 24 hours. Most sharks do not chew their food very much — instead, they swallow large chunks whole.

Sharks are fish, but special and unique fish. There are about 450 species of sharks found in waters all over the world. One of the oldest vertebrates on Earth, the shark has existed for 400 million years.

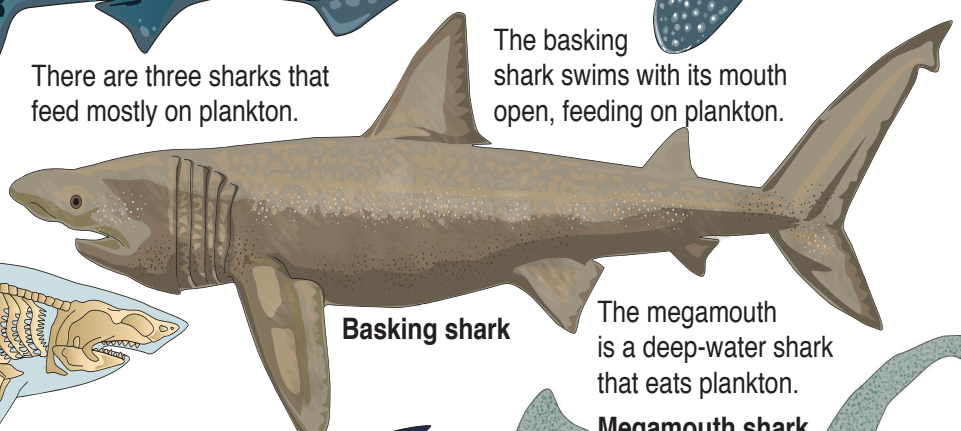
The **whale shark**, the largest of sharks and the largest fish in the world, survives primarily on **plankton** (tiny ocean animals).



Whale shark

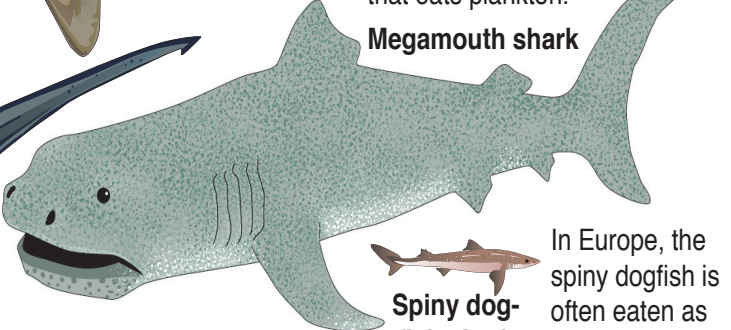
There are three sharks that feed mostly on plankton.

The basking shark swims with its mouth open, feeding on plankton.

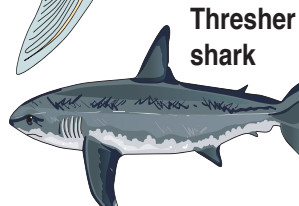


Basking shark

The megamouth is a deep-water shark that eats plankton.



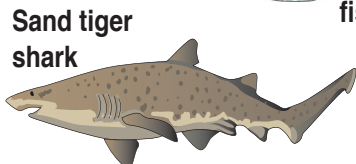
Megamouth shark



Thresher shark



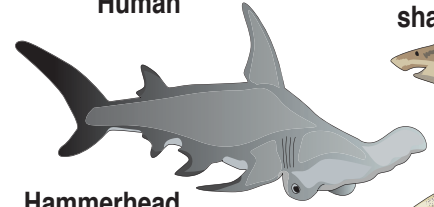
Human



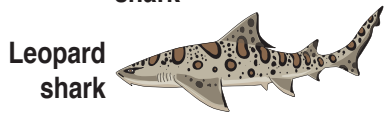
Sand tiger shark

In Europe, the spiny dogfish is often eaten as 'fish and chips.'

Spiny dogfish shark



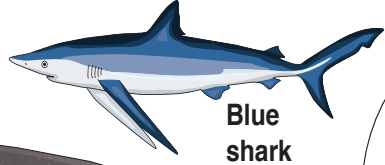
Hammerhead shark



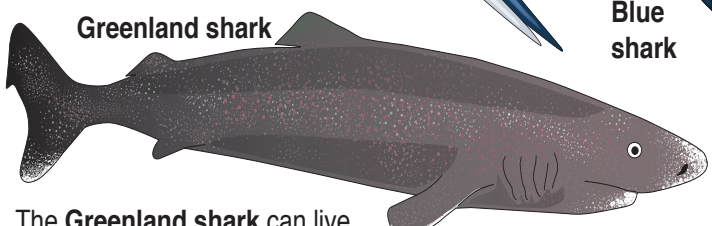
Leopard shark



Zebra shark



Blue shark



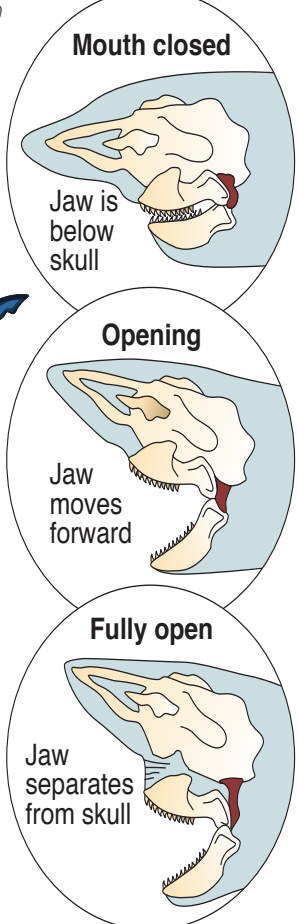
Greenland shark

The **Greenland shark** can live up to 400 years and doesn't reach sexual maturity until 150 years.

Blue sharks use their large pectoral fins to ride currents as they migrate.

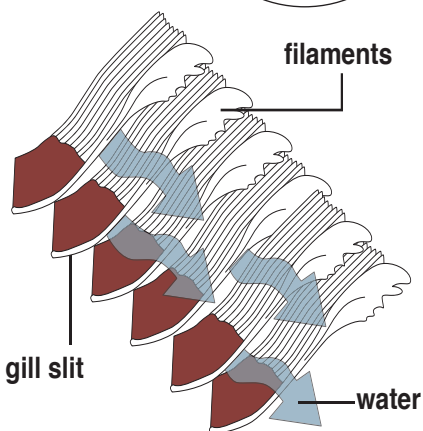
Jaws (not the movie)

The mouth of most sharks is located beneath the snout. The jaw is connected to the skull by ligaments and muscles. When a shark begins to bite, the snout moves up and out of the way, while the jaw moves forward and protrudes.



Gills

Water enters the shark's mouth and passes over the gills, where **respiration** takes place. Oxygen in the water is exchanged for carbon dioxide in the blood, then the water passes out of the gill slits. Most sharks need to swim to force water through their mouths and over their gills.



SOURCES: World Book Encyclopedia, World Book Inc.; <https://www.britannica.com/>; <https://www.worldwildlife.org/>; <https://oceans.org/>; <https://www.sharktrust.org/>;

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