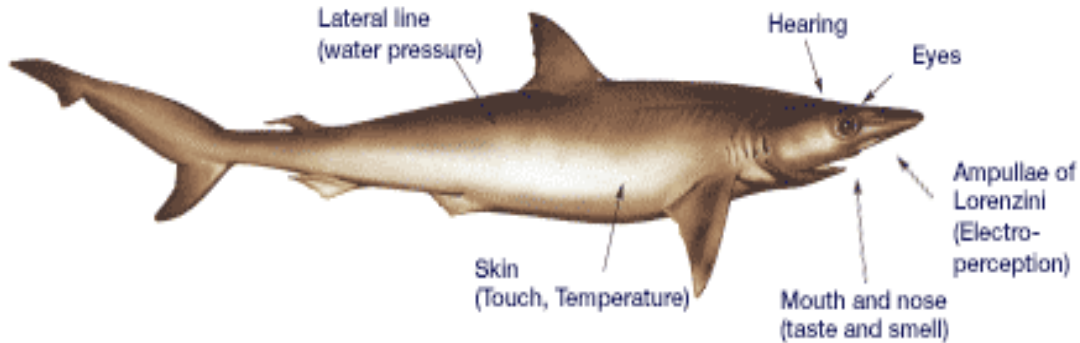


Sharks are masters of seven senses

In the ocean predators must have excellent senses to locate their distant or hidden prey. Over 400 million years of evolution have witnessed the development of shark senses into high performance sensors. They see in the dark better than cats, they smell 10,000 times better than humans and have a highly developed sense of taste. They have excellent hearing, receive and sense even the slightest differences in pressure, feel currents and can detect the electrical fields of their prey.



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(1) Vision

Seeing under water is only possible in an immediate area between 0 and about 50 meters, depending on the water conditions. In addition, colors are absorbed more strongly with increasing water depth. Under these circumstances the advantage lies with whomever has better eyesight, be it predator or prey. Sharks have developed methods of amplifying light in their eyes which make them more efficient than such night-hunting mammals as cats, foxes or wolves.

Sharks have excellent vision, in twilight hours even better than cats.

(2) Scent

The shark can smell certain substances 10,000 times better than humans, and can locate the smell of prey accurately over hundreds of meters.

(3) Taste

The decision on whether or not to eat a prey depends on how it tastes. Sharks have a very good sense of taste so it is not astonishing to hear about their tendency to first try anything unknown to them before eating it completely.

(4) Electrosense

The shark's electrosensors are its Lorenzini ampoules as known as Ampulae of Lorenzini, only sharks or rays have them. These electrosensors consist of hundreds of such pore groups and are located on the shark's head, especially in the region of their snout. All living things emit electrical fields, either with the beat of the heart, muscle movement or with the brain. These electrical fields are picked up through the shark's jelly-filled pores, allowing them to be aware of the animals around them and sensing those weak, sick, or dying prey.

(5) Hearing

Sound travels under water about four times faster than on land, whereby low frequencies dissipate slower than high ones. The sense of hearing is thus important to sharks. They react especially to low frequency, pulsating oscillations around 100 Hz, as produced by sick or wounded animals. Several shark species can thus accurately locate their prey over a distance of several hundred meters.

(6) Sense of touch

Shark skin has highly sensitive pressure and temperature sensors, some of which are so sensitive that they can register skin vibrations/movements of only 0.02mm. With these sensors sharks can feel contacts, water currents and temperature changes.

(7) Pressure sensors

Lateral line

The lateral line system of sharks extends from the head to the caudal fin. It contains sensory cells embedded in jelly and is connected to the skin surface by small pores. The jelly conducts shock waves to the sensory cells.