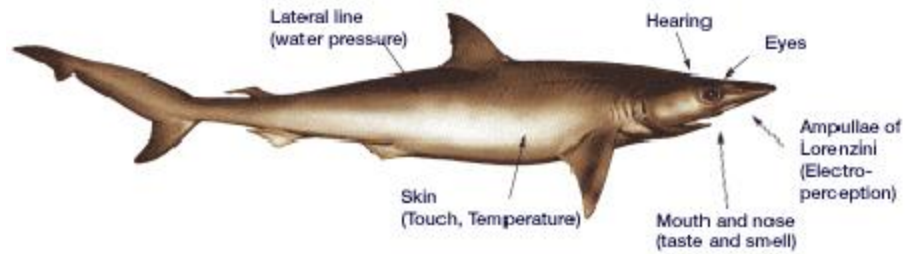


Shark Senses

Sharks are masters of six senses.

CREDIT: © Shark Foundation

Great White Sharks (*Carcharodon carcharias*) became the ocean's top hunters through the evolution of supremely-adapted senses and physiology.



SMELL

The most acute sense of the Great White Shark is smell. They are able to detect substances of about 1 part per 10 billion parts water. Their

nostrils are on the underside of the snout and lead to an organ called the olfactory bulb. The Great White's olfactory bulb is reported to be the largest of any shark.

HEARING

Shark external ears are hard to see – they are just two small openings behind and above the eyes. The ears may be small, but they're powerful. Inside the ears are cells that can sense even the tiniest vibration in the surrounding water. Sharks also have an 'ear stone' that responds to gravity, giving the animal clues as to where it is in the water, head up, head down, right side up, or upside down.

VISION

Great White Sharks have great vision. The retina of the Great White Shark's eye is divided into two areas – one adapted for day vision, the other for low-light and night. To protect itself, the Great White Shark can roll its eye backward into the socket when threatened.

ELECTRO-RECEPTION

Sharks have a sense that humans can only be in awe of – they can sense an electrical field. A series of pores on the shark's snout are filled with cells called the Ampullae of Lorenzini that can feel the power and direction of electrical currents. Scientists have discovered that sharks can use this sense to navigate through the open ocean. The sharks make an electrical 'map' of the magnetic fields that crisscross the Earth's crust.

TASTE

Great White Sharks are opportunistic eaters. Depending on the season, area and age, [they will hunt seals and sea lions](#), fish, squid, and even other sharks. They have taste buds inside their mouths and throats that enable them to identify the food before swallowing.

TOUCH

Great White Sharks have an elaborate sense of touch through what's called the lateral line – a line that extends along the middle of the shark's body from its tail to its head. This line is made of cells that can perceive vibrations in the water. Sharks can detect both the direction and amount of movement made by prey, even from as far as 250 meters (820 feet) away.