

Sharks and rays: lesson 1 of 3

Meet the sharks

Myths, facts and super senses



Whale shark feeding near La Paz, Mexico. Photo: Matthew T Rader, CC BY-SA 4.0, via Wikimedia Commons



Sharks live on our reefs

In the 12 months to April 2026, MCP volunteers recorded 6 whale sharks, at least 3 manta rays, 4 eagle rays and two bamboo sharks that seem to live on the reef full time, all near Zamboanguita, Negros Oriental.



Have you ever seen a shark or a ray? How did you feel?



Myth or fact?

People say a lot of things about sharks.
Some are true, and some are not.

1. Work with your team.
2. Read the ten statements on your sheet.
3. Decide together: myth or fact? Circle M or F.
4. You have five minutes.

 **Myth**

Not true, even if lots of people believe it.

 **Fact**

True, and scientists have the evidence.



Statement 1 of 10

Sharks kill lots of people every year.



In 2025, scientists confirmed 65 unprovoked shark bites on people in the whole world, and 9 of them were deadly. Every day, millions of people swim, surf and dive.

65

unprovoked bites worldwide

9

deaths, in all of 2025

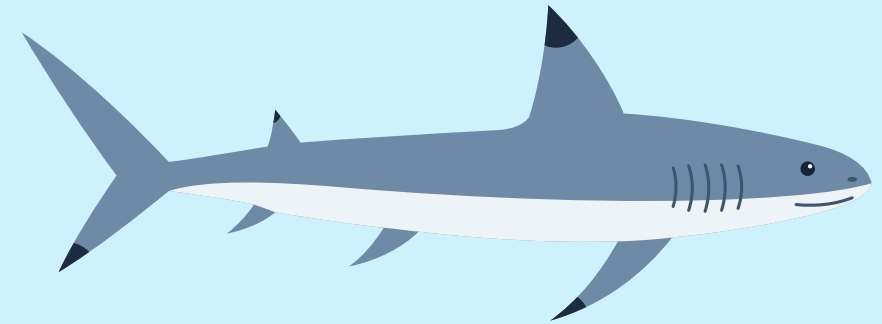
How we know: International Shark Attack File, Florida Museum of Natural History, 2026



Sharks hunt people.

✗ Myth

People are not shark food. Most bites happen when a shark mistakes a person for its usual prey in murky water, or checks out something new, and then swims away.



Statement 3 of 10

All sharks are big, with sharp teeth.

✗ Myth

The whale shark is the biggest fish in the world, up to 13 metres long, and it eats plankton and tiny fish. Some deep-sea lanternsharks are small enough to hold in your hand.

How we know: Convention on Migratory Species, whale shark profile



A whale shark filter feeding near La Paz, Mexico. Photo: Matthew T Rader, CC BY-SA 4.0, via Wikimedia Commons



Statement 4 of 10

Sharks are fish.

✓ **Fact**

Sharks breathe with gills, swim with fins and spend their whole lives in water. Together with rays, like this manta, they belong to a group called cartilaginous fish.



How we know: Natural History Museum, London

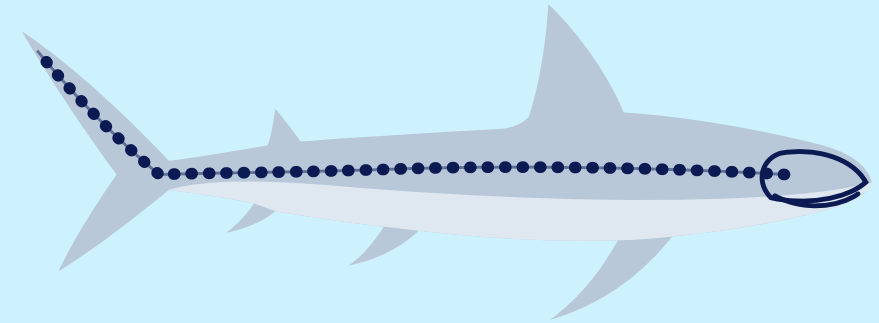


Statement 5 of 10

Sharks have no bones.

✓ **Fact**

A shark's skeleton is made of cartilage, the same bendy stuff as the tip of your nose. It is lighter and more flexible than bone. Only the teeth are hard.



How we know: Natural History Museum, London



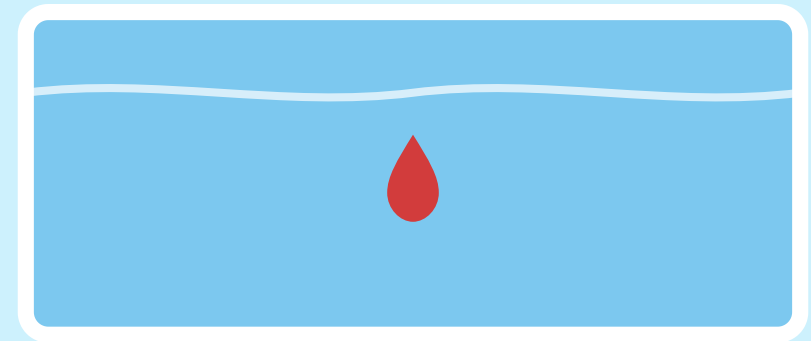
Statement 6 of 10

A shark can smell one drop of blood from a kilometre away.

✗ Myth

A shark's nose is about as good as other fishes' noses. The best can smell roughly one drop in a small swimming pool, and only if the current carries the smell their way.

one drop in a small pool



Statement 7 of 10

Sharks were around before the first trees.



The oldest shark scales are about 450 million years old. The first trees grew about 385 million years ago, and the dinosaurs came much later.

How we know: Natural History Museum, London, and BBC Wildlife



not to scale



Statement 8 of 10

All sharks must keep swimming or they die.

✕ Myth

Great whites and whale sharks must keep swimming to breathe. Many other sharks can rest and pump water over their gills, like this bamboo shark on a reef near MCP.



How we know: Live Science



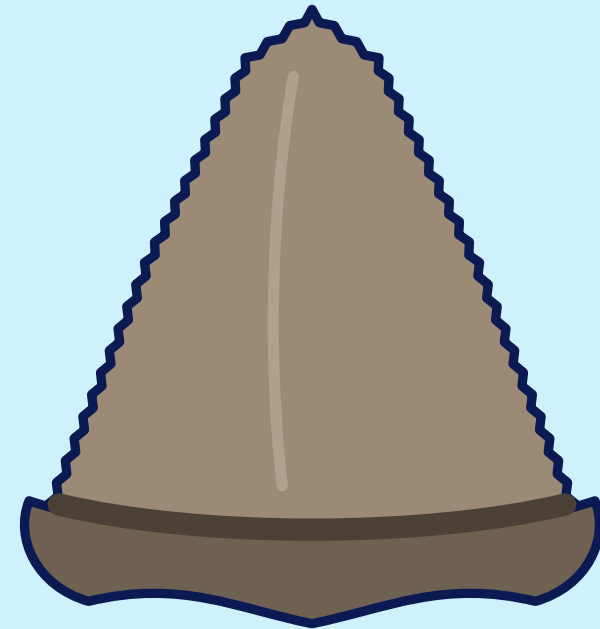
Statement 9 of 10

Megalodon still lives in the deep sea.

✗ **Myth**

Megalodon was a giant shark, far bigger than a great white. Its fossils stop about 3.6 million years ago. Sharks drop thousands of teeth, so if it were still alive we would keep finding fresh ones.

How we know: Boessenecker and others, 2019



a fossil megalodon tooth

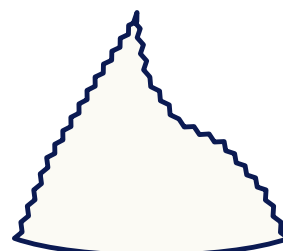


A shark can grow tens of thousands of teeth in its lifetime.

✓ Fact

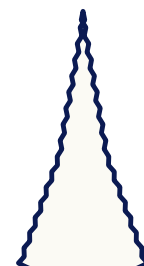
New teeth wait in rows behind the front ones and move forward when a tooth falls out, like a conveyor belt. Some sharks lose tens of thousands of teeth in a lifetime.

1



Tiger shark

2



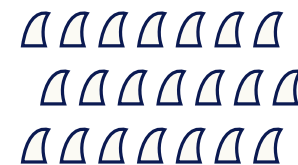
Blacktip reef shark

3



Bamboo shark

4



Whale shark



Super senses

Sharks have the same five senses as you, and two extra ones that we don't have.

Senses we share

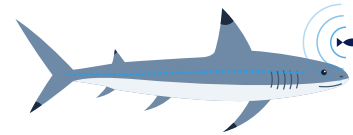
Smell

Sight

Hearing

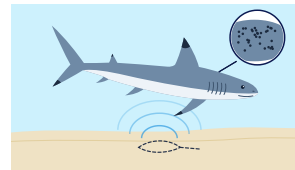
Touch

Taste



Lateral line

feels movement in the water



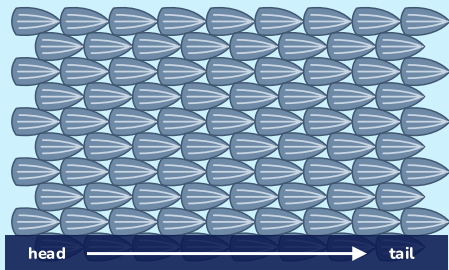
Electric sense

feels tiny electric signals from living animals

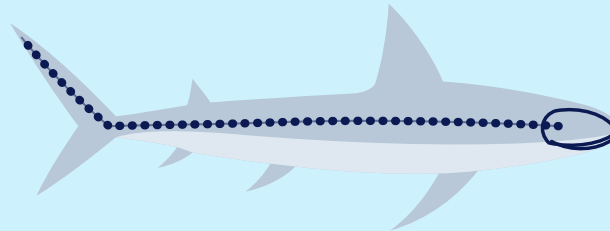


Station time

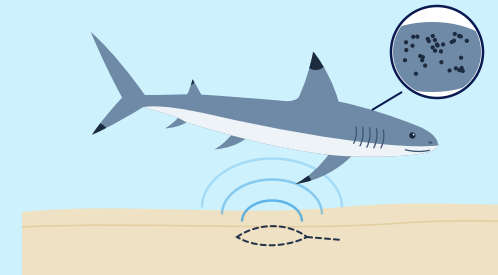
Four minutes at each station. Try the activity, write your answer on your record sheet, and move on when you hear the signal.



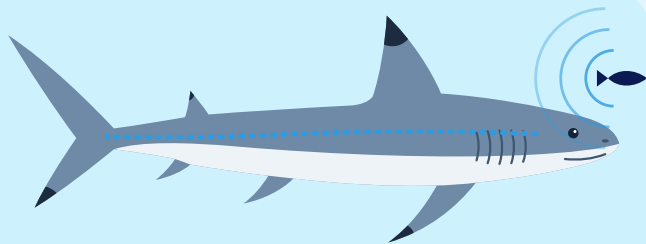
A Skin like sandpaper



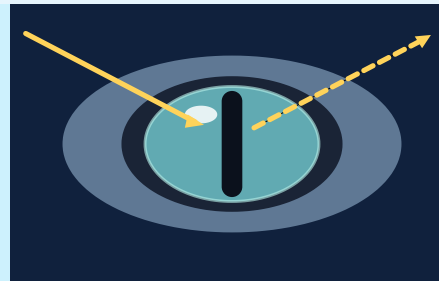
B A skeleton that bends



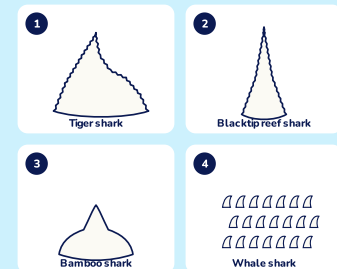
C The electric sense



D Feeling the water move



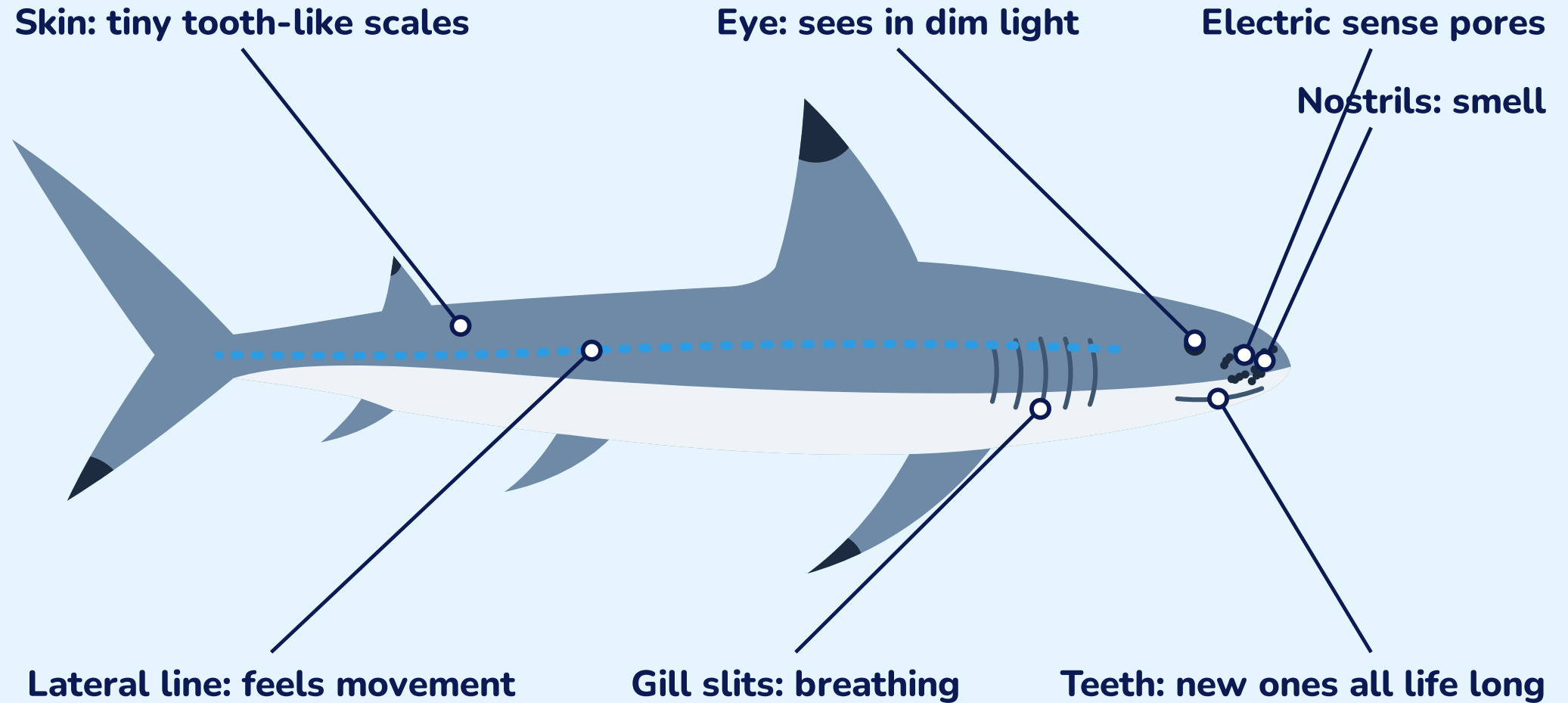
E Eyes for the dark



F Teeth on a conveyor belt



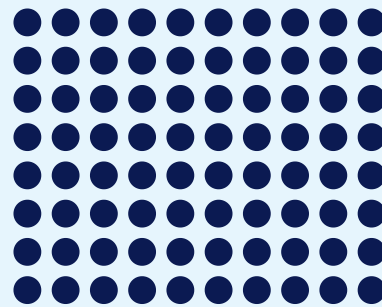
Where are the super senses?



Who is more dangerous?

9

people killed by sharks,
worldwide, in 2025



80 million

sharks killed by fishing in 2019,
the latest global count

Each dot is one million sharks.

On this scale, the nine people would be far too small to see.



Talk about it

Why are so many people scared of sharks?

Where do our ideas about sharks come from?

Why do you think people kill so many sharks?

Tell a partner one shark fact you will share at home.

Next time: sharks on the reef, who eats whom, and why reefs need sharks



Photos and sources

Photos: whale shark (slide 2), bamboo shark and manta ray by MCP volunteers, Negros Oriental. Feeding whale shark (slides 1 and 6) by Matthew T Rader, CC BY-SA 4.0 (creativecommons.org/licenses/by-sa/4.0/), via Wikimedia Commons. All illustrations drawn for this lesson by Marine Conservation Philippines.

Sources:

- Marine Conservation Philippines (2026). Frequent sightings of sharks and mantarays.
- International Shark Attack File (2026). Yearly worldwide summary 2025.
- International Shark Attack File. Case classifications.
- Worm, B. and others (2024). Global shark fishing mortality still rising despite widespread regulatory change. Science.
- Dulvy, N.K. and others (2021). Current Biology 31: 4773-4787.
- Natural History Museum, London. Shark evolution: a 450 million year timeline.
- BBC Wildlife. Are sharks older than trees?
- BBC Science Focus. How do sharks smell blood underwater?
- Live Science. Must sharks keep swimming to stay alive?
- Boessenecker, R. and others (2019), reported by National Geographic.
- Convention on Migratory Species. Whale shark.
- MarAlliance. Can you identify sharks based on their teeth?

Full links are in the teacher reading. Free to use and share for education. Made by Marine Conservation Philippines. More free lessons: marineconservationphilippines.org/resources/teachers-resources/

