

Sharks

PUPIL FACTSHEET

The majority of vertebrates (animals with backbones) in the ocean are bony fishes, but the sea-faring vertebrate group also includes whales, dolphins, seals, turtles and of course, sharks.

Sharks are cartilaginous fishes, which means that they have skeletons made not of bone, but of cartilage - the tough, elastic stuff you have in your knee.

The average life span of a shark is 25 years, but scientists think that some great white sharks can live as long as 100 years. Sharks have been around for 400 million years - even longer than dinosaurs.

Sharks live in all the oceans of the world from the Arctic to the Antarctic. There are also a few who live in lakes and rivers, though none have ever been spotted on the River Thames! The biggest shark to visit British waters is the basking shark which can grow to 36 feet long but is harmless.

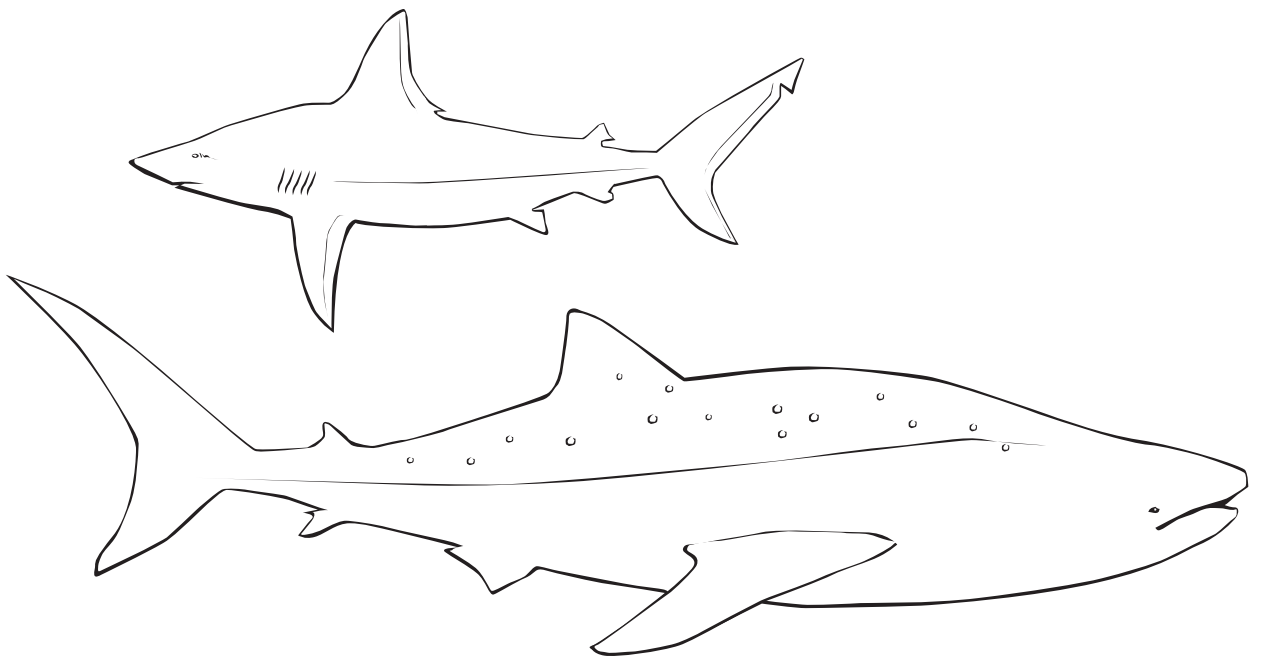
The Oscar-winning film *Jaws* gave them a bad name, but most sharks are harmless to humans. Of some 350 species, only three - the tiger, the bull and the great white - are known to have attacked man. More people are killed by dogs, pigs and deer than by sharks.

When sharks do attack people, it is usually a case of mistaken identity. The great white and the tiger feed on seals, sea lions and turtles. From beneath the surface in dark waters, a wet-suited diver with flippers looks quite like a seal, and a surfer paddling on his board with his head and arms stuck out one end and his flippers stuck out the other could easily be mistaken for a turtle!

Man-eating sharks tend to prefer men on the menu: 13 males are bitten for every one female attacked! The great white can go as long as three months without eating - the trick for all you boy swimmers is to work out which three months!

Whale sharks eat tiny plankton and small fishes but they will also eat rubbish. One dead whale shark's stomach contained a boot, a bucket, a wallet and part of an oar! Despite their size, whale sharks are harmless - people have even been known to walk on their backs.

The whale shark is the largest fish in the world, larger than even small whales. This plankton-eating giant reaches a length of around 18 m. Great white sharks grow about 10 inches per year and can grow to lengths of 14 feet. But most sharks are quite small - the pygmy or dwarf shark has a maximum length of about 250 mm.



Sharks (continued)

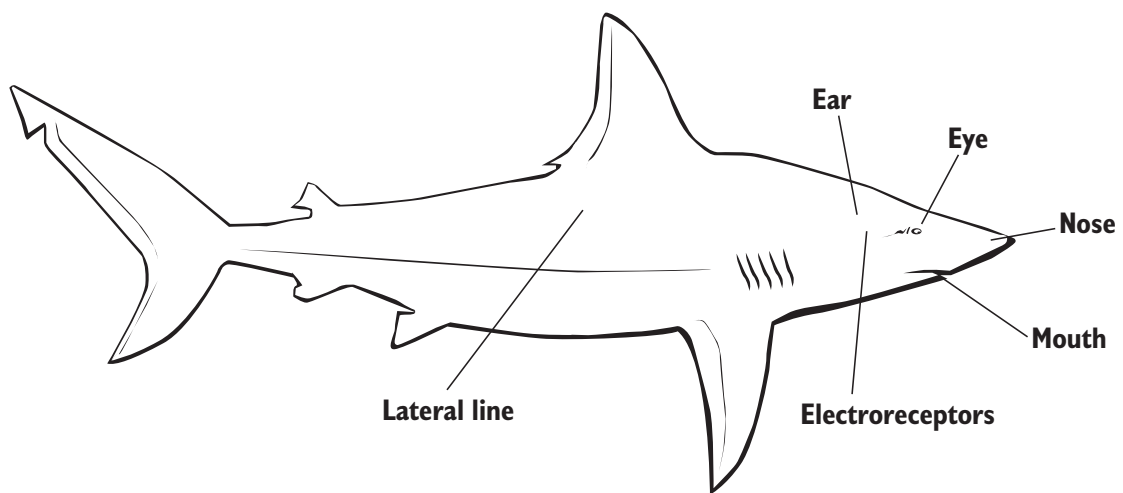
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New rows of teeth are constantly being formed in a shark's jaw. Shark's teeth are normally replaced every eight days; some species can lose as many as 30,000 teeth in their lifetime. Whale sharks have approximately 300 rows of teeth, with hundreds of tiny teeth. Sharks can generate about six tons per square inch of biting force. Ooch!

Sharks' skin is made from special teeth called denticles. In the past, this skin was used to polish wood, just like we use sand paper today. In Germany and Japan, shark skin was used on sword handles for a better grip.

Not all sharks have to move continuously to breathe, but if a shark stops swimming it can sink to the bottom. Unlike most fish, sharks don't have a bag of air inside called a swim bladder (like the armbands young children use in the swimming pool).

People have five senses - sharks have seven. This means they can detect vibrations and electrical charges given off by other animals in the surrounding water. A shark's sense of smell is so good it could sniff out one drop of blood in an Olympic sized swimming pool.



Despite those seven senses, sharks still need help from people. Human activities that were once considered harmless have now been found to have damaging effects on marine life – even sharks. For example, electric cables lying on the ocean floor can bother and confuse many fish. Some sharks bite into cables, mistaking them for prey.

Some shark mothers lay eggs that then develop outside their bodies. Others, like the wobbegong, produce their young from eggs hatched within the body. Sea Life is proud to have played a part in the first ever wobbegong shark births in captivity at our Blackpool Centre.

The slow-moving wobbegongs from the Eastern Pacific and Australia are anything but fierce man-eating predators who race around near the water's surface. They prefer to feed on shellfish at the bottom of the sea. Their round, flattish bodies covered with yellows, oranges and browns are perfect camouflage as they lie among the rocks and weeds of the sea bed.

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PUPIL WORKSHEET

All sharks have a scientific name and a common name. If you have seen the film *Jaws* you know what the great white shark (***Carcharodon carcharias***) looks like. Using their common names as a clue, try drawing a picture of some of the sharks listed below.

Dogfish - Starry smooth hound - Wobbegong - Black tip reef shark - Goblin shark - Megamouth shark - Leopard shark - Hammerhead shark - Bull huss - Nurse shark

When you have finished, look at the Sea Life Centre drawings to see how close you were.

Shark Q & A

1. Are sharks considered to be a fish?

Yes. They live in water, and use their gills to get oxygen from the water. Sharks are a special type of fish because their body is made from cartilage instead of bones like other fish. The scientific name of this type of fish is elasmobranch. This group also includes rays, sawfish and skates. Cartilage does not fossilize, so the only clues about sharks from the past are their teeth.

2. Do sharks have good eyesight?

Only ocean pelagic sharks have good eyesight. Most sharks have poor eyesight and rely on their other senses to detect prey.

3. Are sharks always hungry?

No, sharks can go up to six weeks without feeding. The record for a shark fasting was a swell shark which did not eat for 15 months. Sharks can enter what is called an "eating phase" in which they might get peckish, but in general, they do not get hungry.

4. Do sharks only eat meat?

Sharks are omnivorous, which means they eat both meat and vegetation. Sharks will eat anything, and if there is not a good supply of meat on the menu, they will eat sea vegetation. In fact, the largest shark of all, the whale shark, is mainly a plankton feeder.

5. Can shark meat be used as food for humans?

Yes, if it is properly prepared. In some countries shark meat is marketed under its own name, in others it is marketed under 'disguised' names because people reject the idea of sharks as food. In America, mako shark flesh is often sold as swordfish. In Britain, many spiny dogfish sharks end up in fish and chip shops! The "yuck, that's disgusting!" factor against shark meat comes from the scavenging habits people associate with sharks, and the fact that the meat spoils quickly.