

Types of Fish

PUPIL FACTSHEET

Fish are vertebrates - that means that like mammals, reptiles, amphibians and birds they have a backbone and an internal skeleton.

There are roughly 25,000 different types of fish. They come in all shapes and sizes and every possible colour - a goldfish looks nothing like a great white shark or a conger eel.

Despite the enormous variety, there are common features. Most fish:

- live in water
- have scaly skin which can be used as defence against predators
- breathe through gills
- are cold-blooded
- have fins and a tail which they use for swimming

Groups of fish

The 25,000 known species of fish are divided into three main groups:

- **Jawless fish (agnathas)** are the last survivors of the world's first vertebrate animals - their ancestors date back five billion years. Unlike younger species of fish, they do not have scales or jaws
- **Cartilaginous fish (chondrichthyes)** developed about 100 million years later. The skeleton of these fish is made of cartilage, which is not as hard as bone. These fish have jaws, as well as teeth which are usually hard and sharp. Their bodies are covered with hard scales
- **Bony fish (osteichthyes)**. Fish with bony skeletons appeared about the same time as cartilaginous fish. They are by far the largest group, with about 20,000 species alive today. These fish have an organ called a swim bladder to help them float.

Jawless fish - the great survivors

Fish with no jaws have almost become extinct - there are only about 45 surviving species, including the lamprey and the hagfish.

The lamprey attaches itself to large bony fishes with a sucker and feeds on their blood!

The hagfish's digestive tract is little more than a straight tube, from mouth to anus.

The hagfish has no eyes, while the lamprey has well-developed eyes.

Cartilaginous fish - from sharks to rays

About 600 living species, including sharks, rays, skates and sawfishes.

A shark has lots of teeth all lined up in a row - if it loses one row, it simply replaces it from behind. The 18 metres long whale shark is the largest fish in the world. It eats small fish and plankton, sucking them into its enormous mouth.

Because of their shape, rays are often confused with flatfishes, but rays are flat from top to bottom and lie belly down. Most rays stay on or near the sea bed and feed on fishes, shellfish, worms and other bottom dwellers, which they grind up with their flat teeth.

Rays come to the surface of the water because they are intelligent and 'nosy' fish. They look at you with the eyes on the top of their head, and smell you with the nostrils found on their bellies.

Types of Fish (continued 1)

PUPIL FACTSHEET

Bony fish - most of the fish in the sea

The lionfish is brightly coloured, which warns other animals that its long spine has poisonous tips.

Catfish use their 'whiskers' to sniff out food. They eat mainly large fish.

The puffer fish inflates itself so that it appears too big for predators to eat.

Do not mess with a trigger fish - their teeth grow continuously and are strong enough to crush crabs ... or your finger!

The John dory is so narrow that it is almost invisible to other fish until too late. Then it shoots out its amazing big jaw and swallows its prey in a rush of water.

Most species of wrasse start off as females, but after about six years, some become males!

Butterfly fish have long, thin snouts for catching food hiding in small cracks and between corals.

The biggest sturgeon are as long as a minibus. Unlike most fish, they have no scales, but are covered in bony plates. They are best known for their eggs - the expensive food caviar.

The gurnard's strange name comes from the French word meaning 'to grunt' - and the gurnard does grunt, by pushing air through the chambers of its swim bladder.

A seahorse's fins beat up to 70 times a second.

When a male lumpsucker is breeding he changes colour from green to red. This means that he will attack anything else that is red - targets include Sea Life workers in their red t-shirts who look like rival males!

Not fish at all !

Some animals are thought of as fish simply because they live in the water, but they are not true fishes. Fish-shaped dolphins and seals are mammals and must come to the surface to breathe. Shellfish, like mussels and cuttlefish are in fact molluscs. Non-fish animals with fishy names also include crayfish and the spiny-skinned starfish.