**BONY FISH (Class Osteichthyes)**

The largest group of fish are the bony fishes and includes eels, seahorses and pipefish. The total number of species of bony fish is thought to be more than 15,000.

**Eyes**
Bony fish have well developed eyes with almost 360° vision. Unlike sharks, bony fish do not have eyelids. Some fish species have false eye spots on their tails to confuse predators as to which end is which. Fish generally have good eyesight, but eye size does vary depending on habitat and behaviour.

**Operculum**
The operculum, or gill cover, is a hard bony plate that protects the gills. Bony fish have a single gill opening on either side of the head.

**Dorsal fin**
The dorsal fin acts like a rudder or keel on a boat, keeping the fish upright and stable. The dorsal fin can be split into two—the front spiny dorsal fin plays a role in protection, the second is known as the soft dorsal fin.

**Fins**
Fish produce sounds by rubbing together two bony parts of the body, such as their teeth or spines. Fish chatter

**Mouth**
Mouth shape and position often indicates what type of feeder the fish is e.g. upwards facing mouth indicates a surface feeder. The mouth is very important in ‘breathing’ (gas exchange), as water is taken into the mouth and passed over the gills, where oxygen is extracted and carbon dioxide is released. Bony fishes’ teeth are attached to their jaws.

**Lateral line**
The lateral line is a series of sensory pores, or receptors, which detect vibrations and pressure changes in the water.

**External anatomy**

**Nostrils**
Although fish don’t have a nose they do have nostrils (or nares) that are used to smell odours (such as chemicals) in the water.

**Anal fin**
The anal fin assists with stability, stopping the fish rolling from side to side.

**Pectoral fin**
Pectoral fins are used individually to turn the fish in either direction or control up and down movement. When used together, they act as brakes or allow the fish to swim backwards. Pectoral fins are absent in eels.

**Ventral (Pelvic) fin**
The paired pelvic (or ventral) fins assist with balance and steering, including side-to-side and up and down movement, as well as acting as brakes to slow the fish down.

**Caudal fin**
The caudal fin or tail as it is more commonly known helps with steering, like the rudder on a boat. It also regulates the speed of forward movement.

**Masters of disguise**
Unlike sharks, many bony fish have bright colours and patterns.

Fish that live on the sea floor often have flattened bodies, usually camouflaged in mottled, neutral colours.

**Scales**
Bony fish have round, overlapping scales, although some species have lost their scales and have naked skin (e.g. toadfish, sunfish). Scales serve as a protective covering against bacterial infection and parasites. The skin also has thousands of mucous glands embedded in it. These secrete mucus that in turn provides an additional protective coating to the fish, making it more streamlined for movement through the water and prevents any water leaking into the fishes’ body.