All fish sleep

Fish do not move all the time they rest or conserve their energy. They cannot sleep quite like humans as they do not have eyelids

All fish have a skeleton

Fish such as cod, salmon and plaice have an internal skeleton (an endoskeleton). They can be described as vertebrates

All fish can move

Fish swim through the water by stretching and expanding the muscles on either side of their body

All fish eat

Fish eat plankton and small fish and shellfish. A simple food chain might look like this:

Plankton ➡ shrimp ➡ sprat ➡ mackerel ➡ human

All fish have muscles

These muscles are usually the part of the fish we eat - the fillet.

All fish have a nose

Fish may have nostrils - inner and outer, although it may not look like a human nose and they do not use their nose or their nostrils for breathing.

All fish have ears

They have internal ears which pick up vibrations in the water rather like sonar.

All fish have eyes

The design of the eye in a fish is similar to other vertebrates although they do not have eyelids as they do not need to keep the eye moist.

All fish fertilise eggs to reproduce

The female fish will usually lay eggs - some eggs will be fertilised before they are laid some after. The soft milt in fish is male sperm; hard roe is the female eggs.

All fish have scales

Not all fish have scales but most do. By examining the growth rings on a scale you can tell the age of a fish.

All fish have slime

Some fish have a slime coating over their skin - as well as or instead of scales the slime like the scales helps to protect the fish against bacteria and predators.

All fish breathe

Fish use gills to breathe, water is taken through their mouths washes over the gills and the oxygen is absorbed. Gills are feathery in design to make the exchange of oxygen more efficient.

All fish can sense their surroundings

Fish have five senses similar to humans, some of these senses are found in the lateral line which helps a fish to detect movement in the water making sure it does not collide with other fish.

All fish have a heart

Fish have a heart that is part of their simple circulation system that transports oxygen around their body.

All fish have blood

Fish have a heart that is part of their simple circulation system that transports oxygen around their body.

All fish have a sense of smell

Fish have a good sense of smell they need to be able to identify their food and fish such as salmon need to be able to identify the river in which they spawned.

All shellfish have a shell

They have an exoskeleton - an external shell which is often very hard as in crab, lobster and mussels. These are known as invertebrates. Cephalopods such as squid are also invertebrates as they do not have a true skeleton although they have an internal shell like structure.

All shellfish have a heart

Shellfish have a simple open system to carry oxygen around the body but no obvious “blood”. This will include a heart; some such as squid may have 3 hearts.

All shellfish can see

Crustaceans such as crab lobster and prawns can see but not always in full colour

All shellfish can move

Squid and scallops use propulsion, filling themselves with water which as it squeezes out moves them through the water. Even mussels and clams can pull themselves along the seabed. Crab and Lobster have 8 legs for walking.

All shellfish catch their food

Crustaceans such as crab and lobster catch their prey with modified “legs” which are known as pincers. Cephalopods catch their food with tentacles using the suckers to trap their prey. Bivalves such as mussels absorb the nutrients they need by filtering the sea water in which they live.

All shellfish have eyes

Crustaceans such as crab and lobster have eyes they use to help see their prey. Mussels don’t really have eyes but scallops have a frill of “eyes” which help them sense light.

All shellfish reproduce

Some shellfish have both male and female reproductive parts and are known as hermaphrodites. Some such as prawns start life as a male then some change to female on maturity.

All shellfish can breathe

Like Fish shellfish use gills to breathe even molluscs like mussels and clams have gills although they are hard to see.