# Fish or Not A Fish

## Make your own sorting game: Fish or not a Fish.

Print out the creature cards and cut them out.
Read the facts about each creature and decide if you think they are a Fish or Not a Fish.

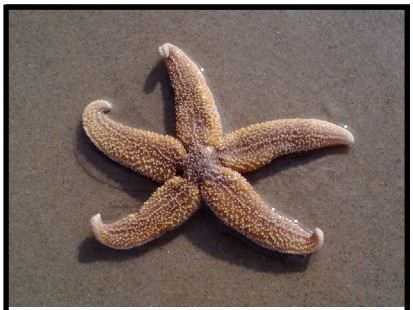
Once you have decided, sort the cards into two categories: Fish and Not Fish.

If you can't print the cards, have a look at each one and then make a list of which you think are fish and which are not.

## What makes a fish a fish?

See if you can work out what features the fish group share or read our page of handy hints on what makes a fish to help you decide on who goes in what group.

*Pipefish*



*Starfish*

*Sea Urchin*

*Crab*

*Blenny*

*Jellyfish*

*Sea Anemone*


*Eel*

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# Creature Facts!

## Pipefish

- Closely related to seahorses, they have small fins and quite rigid bodies which means they are not very good swimmers. This makes them an easy target for predators but they are well protected by their armoured scales.
- They also avoid detection by predators by being well camouflaged with their environment.
- They can't open their mouths which is why they have to suck their food through their snout.

## Eel

- They have slimy scale-less skin.
- Eels have a complex lifecycle which is still not largely understood. Eggs hatch out in the Saragasso Sea in the Caribbean and the larva swim back to Europe in a 4000 mile journey which can take 3 years.
- We are only just starting to understand how they navigate migration – maybe by magnetic fields or using warmer currents. They then go through several different sized life stages and when fully mature migrate back to the Saragasso sea to reproduce. It is still unknown what triggers the development between different stages.
- They have lived up to 85 years in captivity but average lifespan in the wild is unknown.

## Crab

- Claws catch and crush prey but are also used for fighting and communication.
- They have blue blood because it contains copper which make it that colour. Iron in our blood is what makes it red.
- Their skeleton is on the outside, called an exoskeleton – it is their outer shell. It cannot grow so when the crab gets bigger it sheds its old shell and makes a new bigger one.

## Starfish

- Can regrow an arm if they lose one. They can do this on purpose to deflect a predator or if one of their arms is damaged.
- On their underside they have thousands of tiny tube feet which help them move around. Each foot has a sucker on the end to stick onto the rock and they are moved by moving water in and out of them with muscles.
- Some eat with stomachs outside their body, using digestive juices to breakdown prey.

## Blenny

- They can survive out of water for hours! If a blenny can't find a rock pool to stay in when the tide goes out they can hide under a rock or seaweed instead.
- Also called a sea frog as they can move across the beach out of the water.
- Males change colour in the Spring to attract a female mate.

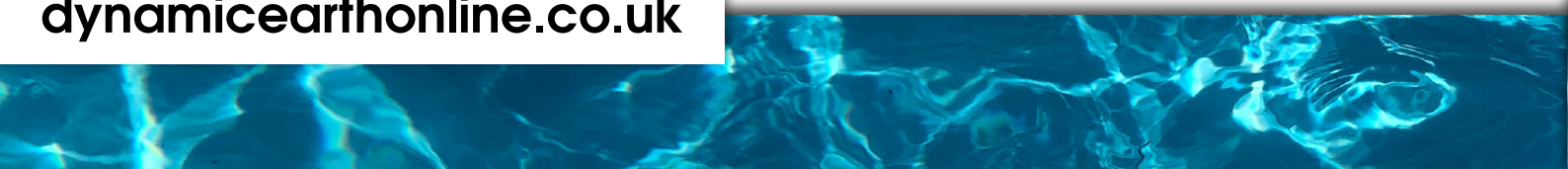
## Sea Urchin

- You have one line of symmetry – down the middle of your body – each side being the same e.g. arm/eye on each side etc. Sea urchins are related to starfish which have 5 arms and so have 5 lines of symmetry – 5 parts that are the same.
- Spines protect them from predators.
- Tube feet help them move around.

## Sea Anemone

- They are closely related to jellyfish so also have stinging tentacles. Humans can't feel the stings but they strongly affect the sea anemone's much smaller prey.
- If you touch a sea anemone in a rock pool, they will draw their tentacles inside their body to protect themselves.
- They have one opening which they use as both their mouth and their bottom.





**Jellyfish**

- Jellyfish are very ancient and simple creatures. They have been in the sea for over 700,000 years which makes them the oldest multi-organ animal.
- However, the lack many of the systems that we have including digestive, respiratory and circulatory. So they don't have a brain, a heart or lungs – their bodies are in fact 95% water.
- They spend early life attached to the sea floor and then become independent but they cannot control how they float and move with the current, waiting for prey to drift towards their tentacles.

## What makes a fish a fish?

So you've had a go at sorting out which creatures are fish and which are not but how do you tell the difference?

It can be a bit tricky sometimes because unlike mammals, fish are not just one group descended from a single common ancestor. In fact, the single ancestor of all fish actually includes mammals too!

A single common ancestor is the species that we can go back to which all the species in a group we find around today have evolved from.

It is how we group things like mammals, birds, reptiles etc. But since we can't really use that for fish, we need to think about what characteristics they share in common.
The basic ones are:

- They are vertebrates which means they have a spine, so they have a backbone like us.
- They live in water.
- They breathe through gills instead of lungs.
- They have pairs of fins.
- They cannot regulate their own body temperature. We call that being ectothermic. We used to call it being cold blooded but they are actually not cold it's just that they don't make their own heat, they get it from the environment.
- They have scales.

**Which creatures on your cards have these characteristics? Can this help you to sort the two groups?**

# WARNING: ANSWERS BELOW!

## Answers

**Fish:**

- Pipefish
- Blenny
- Eel

**Not fish:**

- Jellyfish
- Sea anemone
- Sea urchin
- Crab
- Starfish