



Create a Creature

TOPIC C: FORM AND FUNCTION
TEACHER RESOURCE



The different colours and shapes of fish all have a purpose. Below is some key information to help you provide additional information and examples so that you can chat informally with students as they draw a creature of their own creation.

SHAPE

An animal's body can come in different shapes and these shapes help an animal to be good at either – floating, manoeuvring or swimming really fast.

Oval – 'Fusiform' Shape

- If you were all suddenly changed into a marine animal who would want to swim really fast? Well, the secret is if you want to swim really fast you need to be shaped like an oval.
- This is a special oval that is just a bit bigger at one end than the other.
- Most fish, sharks, dolphins and even whales have this shape as it is the most efficient at reducing drag and enabling speed.

Long and Thin

- Do all animals want to swim fast?
- Some want to be able to get in and out of small holes in a reef or wiggle backwards into the sand.
- To do that, the secret is you need a long thin body just like a sea snake.
- As well as being long and thin, the bottom of a sea snake's body is shaped like a boat to help it go through the water. A sea snake's tail is also flat like a paddle to help it swim.
- Cleaner wrasse are also long and thin – this helps them to get into small spaces like between the teeth of larger fish! This helps them survive as they love to eat leftovers and big fish like to have their scales and teeth cleaned.

Flat

- What if you were an animal that wanted to hide in the sand?
- Stingrays are flat so that they can sweep in and settle quickly on to the seafloor.
- Wrasse sleep in the sand at night. To hide, they swim at the sand and then turn onto their side and slip into the sand. By turning onto their side they are flatter and can hide more easily.

Circle

- A circle is the perfect shape for floating.
- Jellyfish are like circles – they can't swim against the current and float up and down in the currents. This works for them, as they get free transport and their food (plankton) is also carried in the currents.

DO ALL ANIMALS HAVE LEGS?

- Lobsters have 22 pairs of legs – some for walking, some for swimming and some for eating!
- An octopus has lots of arms – eight to be exact.
 - An octopus doesn't have any bones so it can stretch all of those eight arms so they are long and thin and can get through tiny holes in a reef to get to its secret hideout.
 - An octopus also needs to think about eight things at once – can you pat your head and rub your tummy at the same time? That's just two things at once – imagine eight!
- Starfish have lots of feet on the underside of their arms!
 - Starfish can have up to 200 feet under each arm.
 - If the starfish live on rocks, their feet are like suction cups and hold the starfish onto the rock even when big waves come.
 - If the starfish lives on the sand, their feet are shaped like shovels to help dig and bury the starfish in the sand.
- Fish have a tail.
 - Seahorses are fish and have a tail that can curl.
 - With a tail that can curl you can hold onto seaweed and stay safe in a storm but...you can't swim very fast.
 - Seahorses are the slowest fish in the ocean. It takes them two and a half days to swim just one kilometre – we could walk that far in about 12 minutes.
 - Sea horses can swim backwards – something most other fish can't do.
 - Tuna are a fast fish.
 - Fast fish have a forked tail – it is narrow between the body and the tail and then forks or splits into two like a V.

COLOUR

- Fish that live in the open ocean are normally silver or blue to match the water.
- They have mirrors built into their scales that reflect the light and colours around them.
- A coral reef is bright and colourful so reef fish are usually bright and colourful too.
- Stripes break up their image so it looks like half of them is missing, making it hard for other animals to tell if they are a fish or not.
- Fish think that a big eye means a big fish that is probably going to eat them, so lots of little fish have big spots on them to try and confuse other fish into thinking that they are more dangerous than they really are.
- Bright marks are a warning sign and advertise that a fish is dangerous!
- Browns, oranges and white blotches help to blend in with the sand and rocks of the seafloor.

THE SHAPE OF AN ANIMAL'S MOUTH CAN TELL US WHAT, AND HOW, IT EATS!

Long and Thin

- A straw-like mouth is good for sucking.
- Seadragons slurp up their food through their long straw-like mouths. They have no teeth so they swallow their tiny food whole!

Teeth

- Pointy teeth – grey nurse shark.
 - These teeth work just like a pair of chopsticks. They are great for grabbing slippery food but useless for chewing, so the grey nurse shark swallows its food whole.
- Triangular teeth – great white shark.
 - Very good at cutting and chewing food.
- Flat rectangular teeth – Port Jackson shark.
 - These teeth are perfect for grinding up food with a hard shell like crabs or prawns.

WHERE IS YOUR MOUTH?

- A mouth in the middle means you swim forward and chase and grab your food in front of you.
- A mouth that points up at the top is perfect for a creature that sits at the bottom and then leaps up and grabs its food – just like the stonefish.
- A mouth underneath grabs food from below. A stingray's mouth is underneath its body and it swoops down and finds food underneath, hidden in the sand.

Notes: