

Melbourne Aquarium Field Trip

Name: _____

Class: _____

Your task:

Some of the species that we have studied have gone missing!!!

You are a MBI (Marine Biology Investigator), posted to the Melbourne Aquarium by your superiors (teachers). Your posting requires you to identify several species that have so far eluded the taskforce. Your superiors are very interested in what you find – and any information gathered will assist in solving the case.

To find the clues, use your observational skills to analyse several species behaviours.

Complete these worksheets as you move through the Aquarium. Record the scientific name as well as the common name for all questions.

This must be submitted at the end of the day.

Good luck!

Body Form and Function

Body shapes allow aquatic animals to swim fast or slow, to mimic their surroundings, and to protect themselves. Fish live in a variety of aquatic habitats such as oceans, rivers, swamps, streams, and ponds. Each habitat dictates the body type the animal needs to survive within the habitat.

Fish Shapes

Bullet shaped – These fish are streamlined like a bullet for less resistance against water. With less resistance these, animals are able to reach fast speeds. Pelagic (open water) fish and sharks often have this body design. This body type is also called fusiform.

Compressed – These fish are flattened from side to side. Being thin allows the animal to hide within rocks and corals. They also seem to vanish when they turn sideways. Examples include filefish and angelfish.

Depressed – These fish are flattened from top to bottom. The flat shape, along with special coloration, allows these fish to blend in with the bottom. Flat fish are able to hide from predators while able to sneak up on prey. Examples include flounder, rays, and skates.

Inflatable fish – Puffers and porcupine fish can swallow water to inflate their bodies. This serves as a defence mechanism in cases where the animal feels threatened. If taken out of the water they can also swallow air.

1. Find a fish that can blow itself up with air for protection
2. Find an animal that is easy to see from the side, but not so easy to see from the front
3. Find a species with a snake-like body
4. Find a fish that is shaped like a bullet
5. Find a species that is flat and lies on the bottom
6. Find an animal that looks like a rock
7. Find an animal with wings
8. Find a species with 10 appendages
9. Find a species without gills
10. Name a fish with something unusual on its head
11. Find an animal that looks like a plant

Coloration and Venom

Fish come in a variety of colours and use their coloration in different ways. Generally, freshwater and pelagic fish are duller in coloration because the rivers, lakes, and ocean waters where they live are not as brilliantly coloured as coral reefs. Reef fish come in every colour of the rainbow to blend in with their environment.

Colouration

Brightly coloured – Can blend into the background of a coral reef, which in clear water and strong sunlight is often brightly coloured. Sometimes they can be sending a message to its predators that it is dangerous. A good example of this is the lionfish that has spines and is venomous.

Dull coloured – Can blend into swamps, rivers, and streams so as not to be easily seen by predators. They are also good at ambushing their prey.

Camouflage – Many have evolved elaborate means of camouflage including modification of body shape, colour, pattern and behaviour. Camouflage allows a species to blend into the background where they usually swim or rest. Striped fish often swim in areas where there are grass-like weeds. Spotted fish can blend with coral, gravel or rocks. Other fish can change colour to match the colour of the surface they are lying on. Mimicry is a type of camouflage in which the animal takes the shape or colour of other objects found in the water.

Eyespots – Some fish have a black spot on their tail that looks like an eye. These fake eyes are called “eyespot.” Having an eyespot on the tail may make a predator think that the tail is the head. The predator will chase the tail giving the fish a better chance of getting away.

1. Find an animal with a stripe that covers its eye
2. Find a fish that is brightly coloured
3. Find a fish that is dull-coloured
4. Find a species that uses camouflage for protection
5. Find an animal that is venomous
6. Find a species that is brightly coloured and is venomous
7. Find an animal with spots
8. Find a fish that has stripes
9. Find a fish that lives on a coral reef. What colour is it?
10. Find a fish that lives in a pond, lake, stream, or river. What colour is it?

Eating Habits

The shape and size of an animal's mouth will give you clues about what it eats and where it searches for food.

What Do I Eat?

Large mouth – for eating larger prey items

Small mouth – for eating small animals and/or plants

Tube-shaped mouth – for sucking up tiny animals and plants (plankton)

Sharp teeth – for eating meat

Flat teeth – for eating plants or crushing hard shells

Where Do I Eat?

At the surface – A fish with a mouth pointing toward the surface of the water catches food at or near the surface.

At the bottom – A fish with a mouth located on the bottom of its head feeds on food from the bottom. Catfish have whiskers, called barbels, around their mouths to help them find food on the bottom and hidden in the sand and gravel.

In the middle – Fish with mouths located in the middle of their head will catch their food between the surface and the bottom.

1. Find a species with a mouth at the bottom. Where do you think it eats?
2. Find a species with a mouth that faces straight ahead. Where do you think it eats?
3. Find a species with a tube shaped mouth. What do you think it eats?
4. Find a species that eats marine grass or algae
5. Name an animal with a large mouth
6. Name an animal with a small mouth