

Lesson 2

What is a Fish?



To familiarise the pupils with the idea of fish as a group that may live in either fresh water or salt water. This lesson will also introduce the concept of food chains.

LESSON SUMMERY

Geography
Ages: 10 to 11
Lesson time: 45mins

DOWNLOADS & ADDITIONAL RESOURCES

Activity: Camouflage Art
Link: 5 Major groups of Vertebrates
Link: Food Chain Example
Activity Card (Lesson 2)
Whiteboard: Fish Anatomy



Downloads and Additional Resources can be found in the Resource page of Somethingfishy.ie

LESSON OBJECTIVES

To familiarise the pupils with the idea of fish as a group that may live in either fresh water or salt water. This lesson will also introduce the concept of food chains.

TEACHERS GUIDELINES

Lesson could begin by asking “What is a fish?”. Encourage the pupils to use a dictionary or encyclopedia to discover a definition of what a fish is. Ask them to write in the definitions and compare them.

Fish have been around for about 500 million years. They were the first animals to have backbones (vertebrates). In the beginning they looked like tadpoles. Freshwater fish live in rivers and lakes while saltwater fish live in the seas and oceans. Some fish such as the salmon and eel can live in both fresh water and salt water. Freshwater species are the most threatened species on the planet. They are dying out 5 times faster than animals that live on land.

The concept of camouflage is introduced by referring to fish scales. Fish scales are coloured so that the fish will blend with its surroundings. This camouflage helps to protect fish from predators. Young salmon have a silvery hue with red dots along their flanks and defined thumbprints along their sides until they reach the sea. Then they become a beautiful silver colour.

Lesson Plan

Discuss how some animals use camouflage to hide from predators. To develop the idea of fish as vertebrates, compare them with other living creatures. Discuss their type of skin, what they eat and where they live. Introduce the concept of animal classification: Animals are either vertebrates which have backbones or invertebrates which do not. About 97% of all animal species are invertebrates. Roundworms, sponges and molluscs are invertebrates. The vertebrates are classified into 5 major groups: mammals, reptiles, amphibians, birds and fish.

SEE:-  [Link: 5 Major groups of Vertebrates \(Resource\)](#)

Fish can breathe under water – discuss gills. Fish breathe by taking in oxygen from the water using their gills, which are located on either side of their bodies. Fish open their mouths to take in water. The water passes over a system of extremely fine gill membranes and the fish absorb the water's oxygen content. The water is then released.

Fish scales are mentioned as a means of telling the age of some species of fish. Cartilaginous fish such as shark and tope have no scales. Instead growth rings are found in their backbones and can be read in a similar way as the rings on a tree. Flatfish such as flounder and plaice can be aged from growth rings in bones found in the head called otholiths. The rings which tell the age of a fish are wider if food has been plentiful that year (just like the rings on a tree).

SEE:-  [Activity: Camouflage Art \(Download\)](#)

Fish in the Food Chain

The concept of fish in food chains is introduced by asking the pupils to name some of the types of meat people eat. Take some examples and work back through the food chain to its source.

SEE:-  [Link: Food Chain Example \(Resource\)](#)

Fish may occupy many levels in the food chain throughout their lives. For example, fish eggs and fry are an important food for other fish, birds and insects. Fish such as salmon are predators living on freshwater insects and crustaceans in the river and on small fish and crustaceans such as shrimp in the sea. Salmon also serve as food for other animals such as heron, otter, seals, other fish and humans. After they die, their carcasses release nutrients to restart the food chain and nourish plant life in the river or the sea.

REVISION

Two different types of revision material accompany this lesson; activity cards and whiteboard material. The activity card is a 4 page document that is filled out by the pupils to test their knowledge of the lesson taught. The teacher can decide if the activity card is filled out individually or in teams

SEE:-  [Activity Card: Lesson 2 \(Download\)](#)

Lesson Plan

The whiteboard resource tests the pupils knowledge of the lesson taught. Pupils are encouraged to actively engage in answering questions relating to how fish live and breadth, fish anotomy, and food chains.

SEE:-  **Whiteboard: *Fish Anatomy (Resource)***

AT THE END OF THE LESSON, PUPILS SHOULD KNOW

- 1 How fish live and breathe.
- 2 How fish form part of the food chain.
- 3 The difference between freshwater and saltwater fish.