

Lesson 6

Bradán's Journey Ends & Begins again



This lesson focuses on the salmon at sea, where pupils will learn how Bradán has survived all the obstacles that nature and people present and makes her way into the sea and then returns to the spawning bed.

LESSON SUMMARY

Geography
Ages: 10 to 11
Lesson time: 45mins

DOWNLOADS & ADDITIONAL RESOURCES

Whiteboard: Development Stages of a Salmon
Video: Changes of survival of salmon from egg to maturity
Activity Card (Lesson 6)
Whiteboard: Quiz and Questions (Lesson 6)



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

LESSON OBJECTIVES

To enable pupils to fully understand the unique life cycle of a salmon as it continues its journey into the sea and then returns to the spawning bed of its own birth.

TEACHERS GUIDELINES

This lesson focuses on the salmon at sea, where pupils will learn how Bradán has survived all the obstacles that nature and people present and makes her way into the sea.

The fact that she is part of a food web is emphasised.

Tracking Bradán on her journey across the Atlantic helps the children realise the distance travelled by young salmon. She may travel as far away as Greenland, the Faroe Islands and Norwegian Sea to feed. Mathematical calculation and distance measuring can be fun here.

Bradán's diet at sea is mentioned. She will feed and grow on shrimp and smaller fish. In the sea she may also be eaten by whales or seals or caught and eaten by humans.

Mention is made of the fact that a salmon is called a grilse after spending at least one winter at sea. This means that salmon leave the river in April and spend the following winter and spring at sea. They return to

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the river in the summer (spending approx. 14 months at sea).

The average grilse weighs 2 – 2 1/2 kg. Salmon are known as spring salmon if they leave the river in April and spend two winters at sea. They return 20 months later in the spring. Spring salmon are usually greater than 3 1/2 kg in weight.

To illustrate how a salmon's appearance changes to protect itself, the whiteboard resource (see link below) can be used, where pupils work together as a class to put the different stages of development of the salmon, in order.

SEE:-  [Whiteboard: *Development Stages of a Salmon* \(Download\)](#)

They marvel at how a salmon can find its way to the exact stream in which it was born, by using its sense of smell. Camouflage as a protection device is mentioned again.

The cycle of life is complete after adult salmon spawn. Atlantic Salmon re-enter estuaries on their way back to their spawning grounds upstream. They use the estuary as a transitional zone to get used to the changes in the level of salinity from sea water to fresh water. Before leaving its ocean grounds to return to spawn in the river of its birth, the salmon stops feeding, its teeth fall out, its stomach and gut shrink and it is incapable of digesting food.

Only 1% of salmon eggs, on average, survive to smolt stage and of those that go to sea, between 5% and 10% survive to return to the river of origin as adults (10,000 eggs – 100 smolts – 5 10 adults spawn).

To help pupils to better visual and understand the chances of survival to maturity of a salmon's egg, the video link below can be used to demonstrate this.

SEE:-  [Video: *Chances of survival of salmon from egg to maturity* \(Download\)](#)

ADDITIONAL TEACHING MATERIAL

Water in the river is fresh water while water in the sea is salt water. Why? When rain falls, it erodes or breaks down rocks little by little. This material is dissolved and then carried along in streams and rivers to the ocean. In the ocean some of these dissolved pieces of material are consumed by organisms but others such as sodium chloride or salt are not. The amount of salt in the water then builds up over time. The concentration of salt in sea water is 35 parts per 1000.

Marine life is a term used to describe organisms that live in the sea. Seaweeds are algae, simple plant-like organisms that are found throughout the world's oceans and seas. Most algae are red but some are brown or green, and most are attached by roots called holdfasts which anchor them to rocks. Many types of seaweed are eaten and considered to be a great delicacy. You have probably eaten some sort of seaweed extract in the last 24 hours as many foods contain seaweed. Seaweed is also often used as a fertiliser

Many people living in coastal towns and villages depend on fishing or tourism for their livelihood. The fishing industry operates under licences and quotas to conserve stocks. This means that people who fish for a living have to limit the numbers of fish they catch. If they don't, then someday there will be nothing left to catch. The Irish coastline is over 4,500 km long.

FOLLOW UP WORK

Recalling oil spillage disasters show children the horrors and damage caused to the environment. This emphasises again the sensitivity of a food web. If one link is broken, the whole web suffers.

Find out more about the oil spills from the Prestige Tanker off the coast of Spain in November 2002 and from the Jessica Tanker around the Galapagos Islands in 2001. Locate these places in your atlas.

You may also wish to find out about the Exxon Valdez disaster.

REVISION

Two different types of revision material accompany this lesson; activity cards and whiteboard material. The activity card is a 3 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 6 \(Download\)](#)

The whiteboard resource tests the pupils knowledge of the lesson taught. Pupils are encouraged to actively engage in answering questions relating to the development stages and the journey taken by a salmon fish from sea to spawning bed.

SEE:-  [Whiteboard: Quiz and Questions, Lesson 6 \(Resource\)](#)

AT THE END OF THE LESSON, PUPILS SHOULD KNOW

- 1 Salmon travel enormous distances during their lives.
- 2 They are part of a marine food web.
- 3 They return to their birth river to spawn again.
- 4 Very few salmon survive to complete the full cycle of life.