



Cool Seas Topic 4: Fishing

Contents

- Curriculum links p1
- Learning objectives p1
- Background information p2
- Activities p3

Curriculum links (key stages 1 and 2)

Science

- KS1: Sc1 2a, Sc2 5c
- KS2: Sc1 1a, 2b, 2h, 2j, 2l; Sc2 1c, 5d

Geography

- Geographical enquiry and skills: 1a, 2c, 2d, 2f
- Knowledge and understanding of environmental change and sustainable development: 5a, 5b

Learning Objectives

- Pupils will be able to describe a range of food resources people get from the sea.
- Pupils will be aware of different fishing methods and their impacts on the marine environment.
- Pupils will be aware that their choices of seafood have an impact on the marine environment, and that there are types of fish that are best to avoid and choices that are more sustainable.



Background Information (for teachers)

Healthy fish stocks are a vital part of the marine ecosystem, and provide protein and livelihoods for billions of people. Globally, fisheries supply over 2.6 billion people with at least 20% of their average protein intake.

Overfishing

This means catching fish faster than they can reproduce.

Overfishing is widely acknowledged as a significant and growing threat to marine biodiversity, and many fish stocks are in a state of serious decline. Overfishing pushes the fish population lower and lower, until fish are so few that fishermen can't make a living any more.

50% of fish stocks are fully exploited, with no room for further expansion

25% are overexploited, depleted or recovering from depletion

25% are underexploited or moderately exploited

(Figures from the State of the World's Fisheries and Aquaculture report, by the Food and Agriculture Organisation of the United Nations, 2006)

Damaging Marine Habitats

There are a wide range of fishing methods used throughout the world, with different methods used to catch different types of fish. Some of these methods can be very destructive to marine habitats.

For information about the different fishing techniques, go to:

www.montereybayaquarium.org/cr/cr_seafoodwatch/content/media/MBA_SeafoodWatch_GearFactCards.pdf

For similar information, presented in a fun and entertaining way, suitable for kids, go to:

www.fishandkids.org/show_play.php?id=62 and click on the **Boat Bits** game.

Bycatch

Animals that are accidentally caught along with the 'target species' are known as **bycatch**.

They can include dolphins, turtles, sharks and whales, as well as young fish that are too small.

They are usually thrown back into the sea, either dead or dying. Unbelievably, some fisheries catch over 70% bycatch!

Be a responsible consumer

Many people are not aware where the fish they eat comes from or how it was caught. The choices that consumers make, about the fish they eat, affect fish populations and the environment. Therefore, increasing awareness is vitally important to achieving sustainable fishing.

For further information, go to www.fishonline.org



Activities

Key Stage 1

KS1 Activity 1: What do you eat?

What to do:

1. Discuss with the class what foods we get from the sea. What have they eaten? Have they seen any different types of seafood being eaten when on holiday?
2. Ask pupils to find 10 different items next time they go to the supermarket that come from the sea, and write descriptions of them (write down where in the world they come from).
3. When they are back in class mark on a map of the world where the items came from.

Key Stage 2

KS2 Activity 1: What do you eat?

You will need:

- Download the MCS Good Fish Guide (pocket version) from www.mcsuk.org/education/resources and print copies for the class.

What to do:

1. Discuss with the class the types of food people eat that comes from the sea. Explain to the class that they will be carrying out a class investigation into the types of seafood people eat.
2. Ask them to construct a table of examples of seafood and then ask them to interview other pupils in the school about what they eat that comes from the sea. They could even interview the kitchen staff about the food that is eaten in school.
3. Ask pupils to draw a graph to show the results. Use the MCS Good Fish Guide (pocket version) to highlight which fish are best to eat and those which people should avoid. For further information, which may not be covered by the pocket Good Fish Guide, go to www.fishonline.org



KS2 Activity 2: Let's go fishing

This activity looks at how different fishing methods have advantages and disadvantages and discusses what happens when overfishing occurs.

You will need:

- Coloured stickers
- Large open space (such as the school hall or playground)

What to do:

1. Discuss fishing - do pupils know how fish are caught? Tell them that there are different ways of catching fish that are effective in catching different types of fish (can the pupils think of ways in which fish are caught?)
2. Explain that the class is now going to play a game to look at how different ways of fishing have advantages and disadvantages.
 - Give 10 pupils blue stickers (they will be fishers, all other colours are fish)
 - Give 5 pupils yellow stickers
 - Give 5 pupils red stickers
 - Give 5 pupils green stickers
3. Ask all 'fish' to stand in the middle of the room. They will run about the room as if they were swimming in the sea (sensibly!)
4. To begin with, ask 2 fishers to try and catch the 'fish' by tapping them on the shoulder. When the fish have been 'caught' they must stop swimming and stand at the side of the room.
5. Do this for a few minutes and then ask everybody to stand still. Those that have been caught and are at the side of the room should sit down. Explain that a few fishers catching fish using equipment such as a hook and line will not be able to catch many fish and this type of fishing is likely to be more sustainable.
6. Now ask all the fish to stand in the middle of the room and swim about as before. Ask all the fishers to get into pairs and, holding hands (representing fishing with a net), ask them to catch the fish by tapping the fish on the shoulder as before. Once caught, fish should stand at the side of the room. Discuss that having quite a few boats fishing with nets has more of an impact than a few fishers with lines. Can pupils think what impacts it could have?

Continued overleaf



7. Ask all fish to stand in the middle of the room and swim about as before. Tell the green stickers that they will now be turtles and dolphins. This time the fishers will be in 2 groups of 5. Each group should form a line, holding hands to represent a large fishing boat with a large net. The fishers should now attempt to catch fish, dolphins and turtles. Discuss that this type of fishing (trawling and purse seining) which uses large nets can catch very large amounts of fish and can result in more fish being taken out of the sea faster than they can reproduce – i.e. **overfishing**. See how many of the turtles and dolphins have been caught - discuss that some types of fishing methods can result in **bycatch** and therefore it is not only the fish that are wanted that can be affected by fishing.
8. Ask pupils what could happen if too many fish are caught. What would be the effect on:
 - Marine animals (think about food chains and webs)
 - Marine environment in general (bottom trawling has serious impacts on the seabed)
 - Fishers (think about their need to make a living)
 - Consumers (what would we eat?)

What can be done to try and prevent overfishing happening? (Mention regulations and catch sizes).

Extension activity:

- Ask pupils to try and find out how the different types of fish were caught, and where from, next time they are at the supermarket or fish market.

KS2 Activity 3: Discover and debate

1. Explain to the class that they will undertake a research project that will lead to a debate about fisheries.
2. Split the class into four different groups that have an interest in fisheries:
 - Fishers
 - Conservationists
 - Consumers, and
 - Government officials
3. Ask pupils to research how their group would be interested in fisheries, ready for a discussion where the different groups will present their views.
4. Ask pupils to use books and websites to find out the information.