

Food Miles & Nutrition

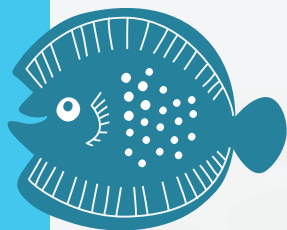


Lyme Bay
Fisheries and
Conservation Reserve

Lesson Plan for Extension Activities:

KS2 & KS3

- Lesson objectives
- Resources needed
- Activities
- Further learning opportunities



BLUE MARINE
FOUNDATION

Brought to you by the Blue Marine Foundation.

Food Miles & Carbon Footprint



Lesson Objectives:



The point of this session is to demonstrate the difference in food miles and carbon footprint of three different types of fish. These fish can be caught locally in Lyme Bay and are sold by local fishmongers or they can be bought in local supermarkets who tend to buy cheaper fish that have travelled a longer distance.

- Pupils will understand that food miles are the distance travelled by a type of food from where it is sourced to an end point.
- Pupils will be able to calculate food miles using a map, ruler and scale.
- Pupils will understand that carbon footprint is the amount of carbon used to transport the food from where it is sourced to the end point. They will also understand that different types of transport produce different amounts of carbon.
- Pupils will use a calculator to do multiplication and addition sums.

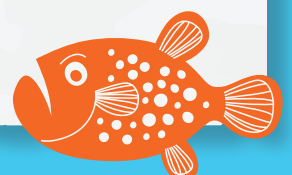
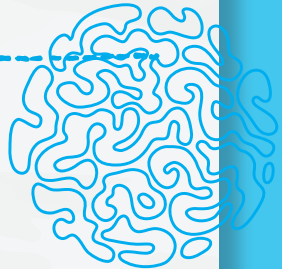


Resources Needed

This pack contains:

- PowerPoint presentation
- A4 map of the UK
- A3 map of the world
- Images of a mackerel, bream and pollock
- A worked example of a carbon footprint calculation, a simple calculation of fish caught and sold locally.
- Worksheets to calculate carbon footprint of the 3 fish being sold in a supermarket.

Additional resources you will need to provide:
rulers and calculators.



Activity One

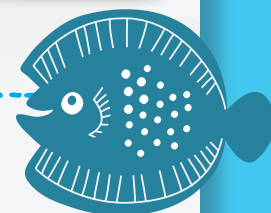
As a class use a map of Lyme Bay to calculate the food miles of the fish you can buy from the fishmonger.

Each group (max four per group is recommended) will then be given their maps and information about where the supermarket sources the 3 types of fish.

The supermarket mackerel come from Aberdeen, the pollock from the North Pacific Ocean and the bream from the sea near .

Pupils need to use a ruler to measure the distances from each location to the supermarket on the map (roughly) and then they can work out the distance using the scale.

A discussion can follow about the possible impact of lots of food miles compared to buying locally. Depending on the ability of the group this might be a good time to bring up seasonality and that sometimes lots of energy is put in to producing a product locally out of season and that is often worse environmentally than the food miles (eg strawberries or tomatoes).



Activity Two

As a class demonstrate that food miles are made up of different transport types and that different types of transport give out different amounts of carbon dioxide (which is polluting the air and contributing to climate change).


Discuss the different transport types involved in getting fish from Lyme Bay to the fishmonger. Hopefully they will say fishing boat and van or lorry. We are assuming for this activity that all fish from Lyme Bay is landed in Lyme Regis.

As a class we will complete the carbon footprint sheet for the locally caught fish. A worked example is included along with a blank version.

Each group will then complete the carbon footprint sheets for the supermarket fish.

This should then follow with a discussion as to why it is better for the environment as well as for local businesses for people to buy more local produce.

Calculating Carbon Footprint
Class Example



Type of Fish: Pollock, Bream, Mackerel
Source: Lyme Bay

Mode of Transport	Volume of carbon (g per mile)	Approximate distance travelled (miles)	Total carbon emissions (g)
Fishing Boat	1	8	8
Cargo Ship	200		0
Plane	150		0
Lorry	30		0
Van	1	10	10
Total for the journey			18g of carbon

Turn over and have a go at calculating carbon footprint





The Schools Outreach Programme is delivered by the Lyme Bay Fisheries and Conservation Reserve – a marine reserve in Lyme Bay, which straddles the border between Dorset and Devon and is funded by Marks and Spencer.

The Lyme Bay Reserve is facilitated by the Blue Marine Foundation (BLUE) – a marine conservation charity which aims to solve the crisis in the oceans through providing innovative solutions to overfishing and enabling the creation of marine reserves.

BLUE's pioneering work in Lyme Bay uniquely engages fishermen to take a lead role in the conservation of their fishery providing long term benefits to marine life, fishers and the local community. In celebration, BLUE has established a Schools Outreach Programme to inform the wider public – young and old – about the quiet revolution that has happened on their doorstep.

For more information about our School's Outreach Programme email:

info@lymebayreserve.co.uk or visit **www.lymebayreserve.co.uk/education**

We'd love to hear what you thought...

We are constantly improving our Schools Outreach Programme and your feedback would be extremely beneficial to us. Please take five minutes to fill in the feedback form emailed to you once you have tried out these activities so that they can be improved as necessary to make the activities the best they can be – thank you.



Facilitated by the Blue Marine Foundation



Funded by Marks & Spencer



JUNE21