



EMPIRIBOX

Primary School Science

Empiribox doesn't like to limit lessons to staying here on planet Earth; we want to launch up into space and see what science we can do up there! From the planets to stars, comets to rockets, we'll explore it all.

Climate Change is a huge focus for the space industry with many investing huge amounts of money on it. In this activity, your class will discuss where our food comes from and the journey it makes to get to our homes.

Spectacular Science

Where Does Our Food
Come From?

Food Sources

In today's world, we are very privileged to be able to buy food in our local supermarkets from across the entire world. We get bananas from the Caribbean, avocados from California, mangos from India and meat from New Zealand.

But what about the carbon footprint* left behind by importing these foods?

* a carbon footprint is the amount of carbon dioxide released into the atmosphere by a particular activity, industry or organisation

Activity – what is the carbon footprint of our food?

As a class, choose one type of food and trace it right back to its origin tracking the carbon footprint in the process. Remember to consider the following and the impact it has on the environment and production of greenhouse gases;

1. Growing or production

- a. The land required
- b. How to treat the land i.e., watering

Think about deforestation and destruction of landscapes to make room for crops to grow. When considering water, think about how it gets to the fields (pumped) where it is being taken from and why taking water from a different place might have a negative impact.

2. Harvesting or culling

- a. Machinery used

Using big machinery like tractors has a high CO₂ emission rate

3. Packaging

- a. Plastics used
- b. Machinery needed

Producing plastic causes huge CO₂ emissions; about 6 KG of CO₂ is produced for every 6 KG of plastic made. On top of this, there is a massive impact on the environment when plastic is not recycled with it ending up in our oceans and countryside and even killing animals.

4. Transport

- a. Trucks
- b. Boats
- c. Planes
- d. Keeping food certain temperatures

Greenhouse gas emissions

Driving a heavy goods vehicle 10 miles – 12 KG of CO₂ produced

Flying a plane 100 miles – 28.1 KG of CO₂ produced (that's roughly 1,490 KG from London to California)

5. Labouring and jobs

It is important to consider the environmental and social economic factors of having an increased workload. This may not be a negative.

6. The shops it is being sold in and the energy it takes to keep these open

- a. Lights
- b. Heating and cooling
- c. Running the vehicles to transport goods

The net emissions in 2017/2018 for Tesco totalled 3.4 million tonnes of CO₂

7. The purchaser

- a. How they got to the shop (in a car?)

The average CO₂ emissions for a standard UK petrol car are about 4.6 tons every year

8. Waste and disposal

- a. Packaging waste
- b. Composting and food waste

Disposing of waste has an environmental impact as well as increasing the CO₂ emissions, but there are plenty of ways we can help reduce this

Class Discussion

As a class, can you discuss ways in which you can reduce the carbon footprint of your favourite foods? Think about where the food comes from, the impact of buying UK grown produce and choosing food not covered in plastic.