

Footprinting

Time: 30 minutes

Individual and Group

Purpose

To learn how every product that is made has an impact on the environment.

Background to the task

Consider a can of coke that you might buy in a shop. The aluminium oxide has to be mined and the aluminium extracted. This is then taken to a factory where the cans are made and printed. The coke is made from water and various chemicals (both natural and synthetic), as well as carbon dioxide to make it fizzy. All these too have to be produced, transported and brought together at the bottling plant. So does the packaging needed to put the cans, into six-packs and then into groups of 24.

The completed package is transported from plant to warehouse to shop, where you buy it.

You might transport it home, drink it and dispose of the can. This might go into the rubbish and end up in a landfill site (bad) or be recycled (good).

All these stages use up land – for the mine, for roads, factories, warehouses and shops, and for the landfill site or recycling plant.

But land is also needed for making the lorries, bricks to build the shop, concrete, steel and glass for the factories. More land is needed to grow the sugar that is used in the coke; and yet more for extracting the water and purifying it.

All these stages need energy – yet more land for power stations or wind farms. And finally, forests are needed to absorb the CO₂ given off at all the stages of production and distribution. Yet more land!

A can of coke needs a lot of land. We call this the footprint of the coke drink. Clearly, the land is used for millions of cans, and for lots of other things. (It is not just coke lorries that use the roads and motorways. Fanta is bottled at the same plant.) But the point is that *everything* we make or use consumes some of the planet's land.

Scientists have investigated the footprint of countries, regions, cities and of particular lifestyles. See <http://www.bestfootforward.com/footprintlife.htm> to calculate yours.

Carrying out the task

1. Form into groups
2. Each group is going to analyse the footprint of a Kinder Egg.
3. Your teacher will give you a set of cards.
4. Place the Kinder Egg in the centre of the table, and then place lines of cards going towards it to represent
 - one line for growing and processing the sugar and bringing it to the factory
 - another line for the milk that goes into the chocolate
 - another line for the plastic toy
 - another line for the aluminium foil
 - any other lines you need

You will end up with a sort of star with the egg in the middle and lines going out from it.

5. The teacher will invite groups to explain one of these lines.

Plenary discussion topic: *How could the footprint of the Kinder Egg be reduced?*

Recording results

Your teacher will tell you what to do.

Teachers' notes

Further information about Foot printing

Footprint researchers have calculated the potential productivity of the land and sea available on this planet and divided this by the population. If we allocate 12% of land for biodiversity, then our individual share of productive land is 1.9 hectares.

It has been calculated that if everyone lived the average British lifestyle we would need 3 planets like earth to support us. If everyone on the planet consumed the resources that the average person in Bangladesh does we would only be using a bit more than a third of the Earth's resources. If everyone lived like the average US citizen we would need 5 planets. 20% of the world's population has 86% of the world's wealth.

Because so many of us are consuming so much, the total resources consumption of the 6 billion people now on the planet is using 1.5 times the resources available (we would need another half a planet to provide for present consumption sustainably). Consuming more than is available seems impossible, but what we are doing is "spending the capital", ruining areas of the planet by polluting them, causing soil erosion etc and therefore reducing the amount of productive land available.

It would not be practical to try to just use our own individual 1.9 ha share. We can't each have our own little bit of sea and wheat field. We have to look at sharing global resources efficiently.

(Source: www.sda-uk.org)

Materials needed

Kinder Eggs (one per group)

The Bluefish poster 'How sustainable is a drinks can?' (available from ITDG Publishing, www.itdgpublishing.org.uk) is useful for presenting the issue, but not essential.

*A large number of cards (or paper) with the following words on. Each card should have **only one word** on it. But each group will need **many cards** of each sort.*

Mine
Road
Lorry
Van
Processing plant / factory
Energy plant

Shop
Warehouse
Waste (landfill)
Waste (recycling plant)
Forest to absorb CO2
Field

Extensions

Invite the children to visit <http://www.bestfootforward.com> to learn more about footprint analysis.