

Carbon footprint

Worksheet Teacher's notes

1. Look at the quotations. What theme do they have in common?

Take nothing but pictures. Leave nothing but footprints. Kill nothing but time.

(motto of the Baltimore Grotto, caving society)

Tread lightly on the Earth.

(Australian aborigine motto)

2. Read the descriptions of what carbon footprint and ecological footprint are. What is the difference between the two?

What is a carbon footprint?

A carbon footprint is a way of measuring the environmental 1)**impact** of human activities on the planet. It is a measure of the amount of carbon dioxide (CO₂), or 2)**greenhouse emissions**, produced by a person, organisation or country as a result of burning 3)**fossil fuels** such as coal, gas or oil. A carbon footprint is expressed in terms of tonnes of carbon produced over a given period of time, usually a year. It takes into account both direct fuel 4)**consumption**, such as the energy a person uses in heating, lighting, transport and 5)**household appliances** and indirect fuel consumption, i.e. the energy consumed in producing goods or services a person uses. The average carbon footprint worldwide is around four tonnes of carbon dioxide per person per year. The average UK 6)**citizen** produces more than double, over ten tonnes, while the average American produces twice this, close to twenty tonnes a year.

What is an ecological footprint?

An ecological footprint measures the total area of productive land and water and the global 7)**resources** needed to support an individual or country. The component elements include the following: the land used to grow food, the land used to grow trees and biofuels, the land used to raise animals, and the areas of ocean used for fishing. However, the most important element is the land required to support the plant life needed to absorb CO₂ from the 8)**atmosphere**, in other words, areas such as the Amazon rainforest. It is expressed in global hectares, and can be also be understood in number of planets that would be required to sustain the entire population if everyone on earth had the same 9)**lifestyle**. Some calculations suggest that the ecological footprint of the average US citizen is equivalent to five planets, whereas a person in a 10)**developing country** such as Bangladesh or Mozambique would need only a quarter of a planet to sustain their lifestyle.¹

3. Look at the descriptions again and complete them with word and phrases from the box.

atmosphere	citizen	consumption	developing country	fossil fuels
greenhouse emissions	household appliances	impact	lifestyle	resources

4. Have you ever calculated your carbon or ecological footprint? How big was it? How big do you think it will be? Let's have a look.

To calculate your carbon footprint go to:

<http://www.cooltheworld.com/kidscarboncalculator.php>

My carbon footprint is:.....

¹ taken from Macmillan New Inside Out, C. Jones, T. Bastow & A. Jeffries, Advanced students' book, p.100

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To calculate your ecological footprint go to:

<http://footprint.wwf.org.uk/>

My ecological footprint is:.....

How do your results compare to your classmates'? Are you surprised?

- 5. In groups of four think what can be done to reduce our carbon and ecological footprint. What changes can you implement in your life? What changes can you adopt as a family? What changes can pledge to introduce in our school?**

students' own answers

- 6. Your teacher will give you a copy of a quiz what actions to undertake to reduce our carbon footprint. In pairs discuss which change is more beneficial to our planet and mark your answers with symbols < and > on the sheet. The teacher will tell you the answers after you have finished. Are you surprised?**

Answers to the quiz:

answer key worksheet 2

- 7. Now you will watch a fragment of a talk by Mark Bittman who is a bestselling cookbook author, journalist and television personality. In this funny talk, New York Times food writer Mark Bittman weighs in on what's wrong with the way we eat now (too much meat, too few plants; too much fast food, too little home cooking), and why it's putting the entire planet at risk. While watching answer these questions:**

- How much of all greenhouse gas is generated by livestock production? How many times is methane more poisonous than CO₂? (1:27-2:35) **1/5; 20 times more poisonous**
- According to Mark Bittman so-called lifestyle diseases -- diabetes, heart disease, stroke, some cancers are the direct result of what? (2:35-3:37) **the result of eating Western diet**
- Why do we crave white bread, Coke, Whoppers and Skittles- food that is bad for our health? (3:37- 4:46) **they are heavily marketed creating unnatural demand**
- How many animals are consumed in the USA alone a year? What comparison does he give? (6:00-7:00) **one billion; if you strung all of them -- chickens, cows, pigs and lambs -- to the moon, they'd go there and back five times**
- Explain the term "locavore". (7:00- 7:30) **just named word of the year by the New Oxford American Dictionary, locavore is someone who eats only locally grown food**
- What is the recommended amount of meat per week? How much does the average American eat per day? (16:54- 17:30) **experts who are serious about disease reduction recommend that adults eat just over half a pound of meat per week; average American eats half a pound of meat a day**
- What are his final words of advice? (18:26- 20:00) **Less meat, less junk, more plants, eat real food, continue to enjoy our food, continue to eat well, reduce not only calories, but our carbon footprint, make food more important, not less, and save ourselves by doing so.**

Compare your answers with the partner. Discuss as a class: do you agree with the main points of the talk? Are any of the numbers shocking or surprising to you?