

Learning Unit 5: THE ECOLOGICAL FOOTPRINT OF MOBILITY

Teaching Material for the age group 1: 10 - 13 year-olds

2. PDF: Exercises, homework and game ideas

TABLE OF CONTENTS

| | |
|-----------------------------------|---|
| Homework and game ideas..... | 2 |
| 1. How do you go to school? | 2 |
| 2. Travelling products: | 3 |
| 3. Holiday planning | 4 |
| 4. Game: Footprint quiz | 4 |

Learning Unit 5: The Ecological Footprint of Mobility

The aim of this learning unit is for the pupils to understand what consequences their travels and mobility choices have. If there was no prior introduction of the Ecological Footprint, it also should be introduced after the ice-breaker. The measure of the Ecological Footprint of different modes of personal mobility as well as the role of transport should be introduced.

The following homework and game ideas can be used as exercises too. They can be simply used by playing the PowerPoint slideshow or by printing out the slides or sheets and use them as handouts.

Homework and game ideas

1. How do you go to school?

Homework ideas

- How do you go to school?
 - On your way home measure the time and distance (with GPS or a map) of your trip!
 - Choose an other type of transportation next time when you go to school! (walk, bike, public transport)
 - Measure the time and distance (with GPS or a map) of this alternative route!
 - Calculate the Footprint with the online calculator!
 - Compare the 2 routes: distance, time, comfort, **fun**? Which one did you prefer?



In this homework you have to look at how you go to school and go home after school. Measure the time and distance of your trip home! Distance can be measured on a traditional map, on the computer, or on the mobile phone. You can also use the GPS on your mobile phone. Then, think out an alternative way to come to school tomorrow (walking, by bike or public transportation) and measure it too (time and distance)!

After that, compare the two routes! Time, distance, comfort and fun? Calculate the Footprint using the online Footprint calculator! Which one did you like most?

These are some more ideas or questions you can ask or make a homework of it.

Homework ideas

- How far do you live from school? Measure it on the map! Measure the time it takes to walk home!
- Ask your parents how many kilometers you drive annually? What is the gas mileage of your car?
- Ask your parents how much car travel costs!
- Do you have a local market in your town? Which days, what time is it open?
- How far is the next train station from your home?
- How far is the airport and a boat station?



2. Travelling products:

Measure and show to the others how much your products travel!

Homework ideas

- Virtual tour of real travels: check out and measure and show to the others [how much your products travel](#)! Pick 3 different items!
 - Look for [barcodes](#) at home on product boxes, wrappings! You can also look for them in retail stores!
 - Check out which country it is from (e.g. the first 3 numbers 599 mean Hungary), and measure the average distance the product has traveled! Try to visualize it on a map!



You can make a contest: the most bizarre product travels! (beef from Argentina, fish from Africa etc.)



These are the instructions for the travelling product game/homework:

In this homework we shall look at how much the products around us travel. For this purpose, pick 3 different items, having a barcode. Try to determine where the product comes from! Calculate the distance it has covered until it reached you! The first 3 numbers of a barcode usually refer to the country it was produced (or packaged) in. For example, 599 means Hungary. Sometimes you can also find the producer (or packager's) address on the label.

Look for the most bizarre product travels!

There are possible variations of this game/homework:

Create a plan with your family in order to reduce the number of products you buy from countries far away from your location.

Visit a local produce market and decide together which produces you like.

Determine how much you could reduce your Footprint by using the Ecological Footprint calculator.

3. Holiday planning

This is a possible homework or exercise in a computer lab.

Where are you planning to travel during the summer with your family?

Calculate the distances in kilometres using an online distance calculator tool or Google Earth, if you travel by

- car
- train
- bus
- airplane!

Determine the optimal solution with the Ecological Footprint calculator!

4. Game: Footprint quiz

Duration: about 12-15 minutes.

Group work – The pupils form small groups (4-6 pupils/group).

Optional

Footprint Quiz: Questions

Footprint can compare very different things:

1000km of train travel leaves the same Footprint as

- ... ca kg of potatoes
- ... ca minutes time in a plane
- ... ca km distance in a middle class car
- ... ca km distance by train (EU)
- ... ca kg of paper (fresh)
- ... ca glasses of softdrink (0,25 l)
- ... ca weeks of laptop-use
- ... ca weeks of laptop-use with green electricity
- ... ca. pieces of plastic shopping bags

values according to calculations of Wolfgang Pékny

Wolfgang Pékny, Plattform Footprint

The pupils get 5-6 minutes to estimate and discuss within their groups and write their answers into the empty space. When every group has finished with estimating and filling in the numbers the teacher asks the pupils, what they have estimated: [How much potatoes have the same Footprint as 1000 km of train travel \(in the EU\)?](#) The groups tell their estimated values. Then the teacher shows the result. The group, which guessed right or is the closest to the right value gets one point. Then the teacher asks the next question and so on.

Key to the quiz:

Optional

Footprint Quiz: Results

Footprint can compare very different things:

1000km of train travel leaves the same Footprint as

| | | |
|---------|-----------|-----------------------------------|
| ... ca | 25 kg | weight potatoes |
| ... ca | 4 min | time in a plane |
| ... ca | 100 km | distance in a middle class car |
| ... ca | 1000 km | distance by train (in EU) |
| ... ca | 3 kg | weight paper (fresh) |
| ... ca | 75 | glasses of softdrink (0,25 l) |
| ... ca | 7.5 weeks | Laptop-use |
| ... ca | 10 weeks | Laptop-use with green electricity |
| ... ca. | 300 | plastic shopping bags |

values according to calculations of Wolfgang Pekny

Wolfgang Pekny, Plattform Footprint

