

# *The work Experience Project 2022-2023*

## *Sustainability*

### *Phase 1*



A project on Work Experience and Sustainability for third grades havo and vwo of the Revius Lyceum Doorn.

## Foreword

### Work Experience and Sustainability Project

The Work Experience Project, known as WEP, takes place in the third year of havo and vwo. During the project you are going to gain experience in different aspects of the workplace and work conditions. You have maybe already had a paper route or a weekend part-time job, however, you will find this project quite different. For the WEP you should search for an internship position yourself at a company or in an organisation where you will be working for five days. What is it like to go to work every day and learn about many other things that are related to “working”. This is often a completely different story. During the WEP you will also be researching to what extent the company or the institution in which you work, is involved in sustainability.



Of course you will not “be thrown in at the deep end”. From November you are going to start learning about sustainability in three mentor lessons (also at home) using texts, films, and exercises which you will find in these booklets. In addition, the theme of “sustainability” will also be discussed during economics, chemistry, physics and geography lessons.

Therefore, there are two booklets, you now have the first booklet (phase 1), you will get the second one (phase 2) in December/January.

The Work Experience Project consists of two parts:

- Part one, (the phase 1 booklet) starts after the autumn break. This is called “the awareness phase”, in which you will learn broadly what sustainability is.
- Part two, (the phase 2 booklet) starts from the beginning of December. It is the phase in which you will be searching for your internship position, preparing yourself for your internship and where it will take place.

In the meantime, in case you have any questions, feel free to ask your mentor or otherwise you can always ask me of course. Good luck!

Ms. Ivon Pieterse

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## Introduction

What is “sustainability” all about?

Something which is sustainable will last a long time. It will be made or done in a way that the lives of the next generations are also taken into consideration. Therefore, “sustainability” is about “always having enough for everybody”. Enough 4 all 4 ever.

Officially it is about providing the needs of today’s generations without making it impossible for future generations to meet their needs. We should find a balance between the interests of people such as welfare and health, fair wages and dignified living and working conditions, the preservation of life on earth, the animals and plants in nature and money/income and a healthy economy.

Now about the economy, where financial profit still often exceeds the aforementioned elements while we are busy plundering the earth and exploiting people. What we are actually witnessing nowadays is a huge imbalance!

However, entrepreneurs, scientists, politicians and ordinary people at home or at work are looking for ways to sustainably produce sufficient food, energy, drinking water and raw materials. Not only for people living now but also for future generations. Not only in our country but all over the world. You can also play a role in this.

How? To start with a cliché, improve the world and start with yourself. What do you know about sustainability and how sustainable are you? This booklet helps you to increase your knowledge about sustainability and awareness of your own behaviour with regard to sustainability. Of course we cannot cover all aspects of sustainability but even small steps could be of great help, right? For the next three mentor lessons you will be working with this booklet and doing the tasks which are in it. Sustainability will also be discussed during classes in economics, chemistry, physics and geography this educational year. The idea is that you create a separate document in which you save the assignments, so that you can hand them in at the end of the project.



During your internship in April you will see to what extent the company/institution where you are doing your internship is working on sustainability. More about that later.

Good luck!

## Assignments: lesson one

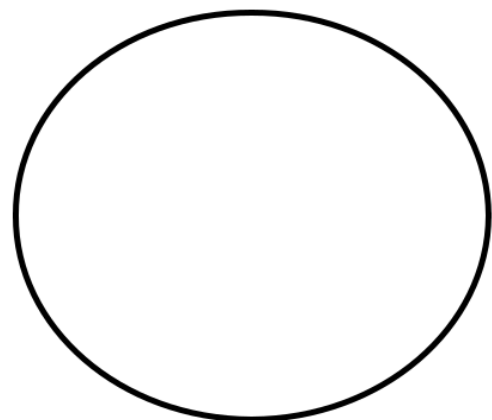


We start with a general video about climate-change and sustainability. After you have watched the video, answer the questions below. If you do not know an answer, you can watch the video again. The subjects are listed in the order in which they appear in the video. If you are not sure what greenhouse gases are after watching, look this up.

Via this link you can watch the video: <http://www.youtube.com/watch?v=z5qYDfRJTzw>

Questions about the video

- 1- What causes climate-change and what role do greenhouse gases play in this?
- 2- Who in the Netherlands emits greenhouse gases and how much? Fill in the diagram below, which shows the proportions, according to real estimates. Write down which greenhouse gases are involved.
- 3- What are the disadvantages of global warming? Name at least three.
- 4- a. What measures can we take to prevent climate-change? Differentiate in your answer between what the government does and what you can do yourself.  
b. Which measures do you (unconsciously) take into account?  
c. What measures do you not yet take into account, but could possibly do in future?



Discuss your answer with a classmate.

## Ecological footprint



The footprint (also called global or ecological footprint) is the space that we occupy per person on earth. This space is calculated based on your lifestyle. Everything you consume takes up space. Food and drink, for example, take up space, because it has to be grown and transported. But also paper use (think of cutting down trees) and energy consumption (CO<sub>2</sub> emissions) take up a lot of space.

Are you aware of what you eat and drink, what you print and when you take the bus, tram, bicycle or car? The consequences of your behaviour can be expressed in a number through this footprint. This number indicates which part of the globe you occupy. The footprint has increased significantly worldwide in recent years. If we continue like this, two earths are needed.

Watch the following video via this link: [https://www.youtube.com/watch?v=Fk\\_4GPw81fw](https://www.youtube.com/watch?v=Fk_4GPw81fw)



### The Netherlands and the world

The Netherlands is a rich country with a high standard of living. We are used to a luxury lifestyle. The average Dutch person therefore has a footprint of 4.1 hectares (ha). That is 41,000 m<sup>2</sup> or 8 football fields. A large piece of land, but what does this really mean?

If we distribute all available space on Earth fairly among all people, without exhausting the Earth, then 1.8 hectares (ha) (3 football fields) per person is available. We call this the **Fair Earth-share**. The average footprint of all people in the world is now 2.7 ha. That is a lot more than the **Fair Earth-share** of 1.8 ha! We all consume more than the earth has to offer. In other words, we are using up the natural reserves of the earth and unfortunately nature can

no longer replenish these reserves in time. There are limits to the use of the earth and our way of life. Those limits are crossed every day. We live on too big a foot!

### Assignment for home

What kind of footprint do you leave behind? If you complete the following questionnaire (possibly together with your parents), you can calculate your own footprint. Try to answer as honestly as possible. After the answers, there is a number in brackets. At the end of the test you add the "scored" numbers together. For a digital calculation you can visit [www.voetdruk.nl](http://www.voetdruk.nl). You can also record your footprint there. Also check out [www.jma.org](http://www.jma.org). Include the results of the test in your document.

<http://voetafdruktest.wnf.nl/vragen.cfm>

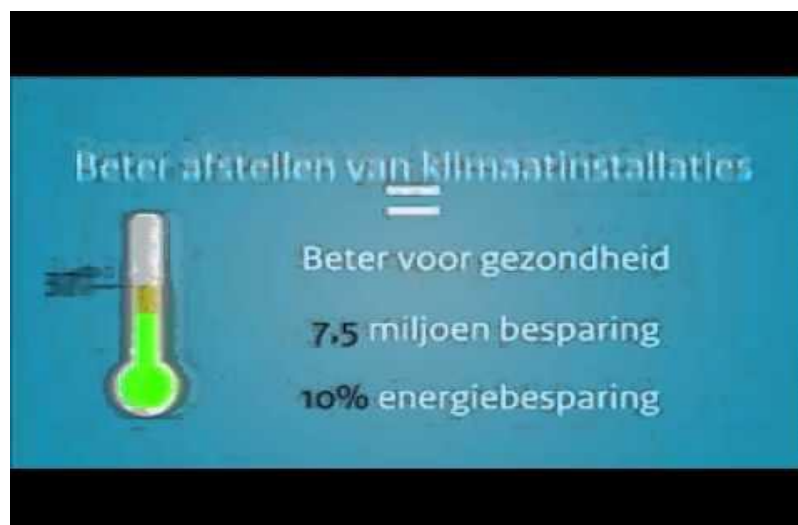
### Assignments: lesson two

Of course you can definitely reduce your footprint. Let's start with three main areas that you can tackle yourself at home, namely the consumption of energy, water and the production of waste.

#### Energy

A large part of the energy consumption in households is determined by behaviour. Do you leave lights on in rooms where you are not, do you spend a long time in the shower, do you turn the heating a degree lower or higher? If you become aware of how you consume energy, you can also change it.

Watch the following video via this link: <https://www.youtube.com/watch?v=W-6f4ygiLk0>



Do the assignments below:

- 1- What are the disadvantages of the increase in the use of electricity? Name two.
- 2- How is our electricity generated?
- 3- What are the government's goals in 2020?
- 4- What critical questions can we ask ourselves when it comes to sustainability?
- 5- What will the energy supply look like in 2030?
- 6- a. What is a smart grid?  
b. What are the benefits of using a smart grid?
- 7- Name three advantages of good insulation mentioned in the video.
- 8- Which energy-saving measures are mentioned in the video?

### Homework:

Ask at home how economical the house is now and what could be improved. Think of energy-saving measures and efficient appliances.

### Water

On average, a household uses hundreds of liters of drinking water per day. The total water consumption is twenty times higher. This "hidden" water is used, for example, in the production and transport of food and products. Water consumption has a global impact and endangers the entire ecosystem in the world. An example like clothing production consumes 256 quintillion (that is 256 with 30 zeros) liters of water annually, 42 percent of all that water is irrigated from local rivers and lakes. This has an enormous impact on nature, the environment in the area and the people who depend on that water. The Aral Sea on the border of Kazakhstan and Uzbekistan even dried up completely due to cotton cultivation.



Drinking water is scarce and expensive. More than a billion people have no access to clean drinking water and this number will just increase in the coming years. Water purification requires a lot of energy and when you realize that only 4 percent of our tap water is used for food and drinking and most of the water in our country is used for purposes that do not



require drinking water quality, you will understand that we also have to adapt our water use. Here too, awareness of your own consumption is the first step.

- 1- What does the water consumption consist of in your house? (Give at least 5 examples)
- 2- How much water do you think someone consumes on average per day?
- 3- How long on average do you spend in the shower per day? Try to measure accurately.
- 4- How much water (in liters) do you use during the time you are in the shower?
- 5- Go to the following website and check your answers:  
<https://www.vitens.nl/service/hoeveel-water-gebruiken-we-per-dag>  
Discuss water consumption with a classmate.
  
- 6- What is energy-saving and why?
  - a. Cold water on gas stove to boil two eggs (until eggs are hard boiled)
  - b. First boil the water in an electric kettle and then boil the eggs in the boiled water on the gas stove (until the eggs are hard boiled.)
  
- 7- Name at least 5 ways how you can save water.

## Waste

In the Netherlands alone, all together we produce around 63 million tons of waste in one year. This means the Amsterdam Arena would be filled to the brim 30 times. Fortunately, a large part of that waste is now reused. The Netherlands is even one of the leaders when it comes to recycling. It is important to properly separate your waste.



Waste is collected separately in most municipalities in the Netherlands. This separation of waste also starts in your house. What do you know about that? Complete the assignments below.

- 1- What does the waste in a household consist of? Name minimum 4 examples.
- 2- How can you limit waste at home?
- 3- Tick what you do or should do with the following waste. If necessary look it up in (for example afvalscheidingswijzer.nl)

Type of waste	Glass bin	GFT+e	Residual waste	PMD waste	Paper	Secondhand shop	Supermarket	Taking waste to station
Detergent bottle								
Old couch								
Leftovers								
Vacuum cleaner bag								
Light bulb								
E-toothbrush								
Oil/frying fat								
Garden waste								
Paint								
Nail polish								
Batteries								
Old clothes								
Old shoes								
Empty bottles								
Empty cola bottle								
Printer ink								
Medicines								

- 4- Surplus food is also thrown away in large quantities. Not only at home but also in shops. There is a code on pre-packaged products:
  - a. What do THT and TGT mean?
  - b. Is it safe to eat a product when the specified use-by date has been exceeded?

## Assignments: lesson three

Ordered before 11 p.m., delivered the next day. Online shopping has never been easier and if you don't like the product, just send it back for free, right?

But what actually happens to all those returned packages? What is the real price tag of our returns?

Ordering in itself does not have to be worse than going to the store. After all, the parcels of about twenty people fit in a typical delivery van. Try to compare the emissions of that one van with the emissions of twenty cars driving to the city. Moreover, the products come to the shops packed in plastic and cardboard, and consider the heating and lighting of all those shops. These aspects are often arranged more efficiently in large warehouses.

Yet there is a problem. The right to return free of charge is wasteful. With the many web shops that also charge no shipping costs for shipping and returns, it is made quite easy for the consumer to just order something. The result? Waste of packaging materials, waste of products and waste of time.



We are increasingly exchanging the shopping street for the web store. Last year, 258 million online purchases were made in the Netherlands alone, but we have become even better at returning these packages. After deciding that the ordered products are undesirable, we send our discarded products back in large numbers, free of charge. In order to survive the tough battle with competitors, online stores have made returns as easy and cheap as possible. The customer has not become a king, but an emperor.

But what actually happens to your parcels after you have returned them? Do we realize that due to our return behaviour, many items are destroyed or end up abroad? How sustainable is online shopping really?

- 1- How many parcels do you or your family have delivered per month?
- 2- What kind of products do you order online? Why are you doing this online?

- 3- What do you pay attention to when ordering online?
- 4- Do you know what will happen to your packages when you return them?

Did you know that 13% of the packages are returned (Tegenlicht, 2019). Many packages are damaged when sending or returning. Original boxes of toys are damaged by transport or by tape residue from packaging. These types of products can no longer be sold, but how about used gourmet sets after Christmas? This happens more often than you know. And what can the seller do? Actually nothing...

The product ordered most online is clothing, of which 20-30% is returned. Many people order multiple sizes, try them on at home and send back what does not fit or is not beautiful. Products are often advertised this way, but now let's consider what happens to your returned clothing.

There are several options. Large companies hire companies to tidy up their clothing so that it can be sold again. However, a lot of clothing has to be destroyed because it is no longer saleable. In the meantime, there are companies that recycle unused textiles. Recycling seems sustainable, because the raw material is reused.

- 5- Why isn't recycling so sustainable when you look at this process?
- 6- What do you think happens to textiles that cannot be recycled?

Large web-shops may be able to calculate all those returns and receive discounts from the transporters, because they send many parcels per day, but what about the small shops? They pay the normal package prices that you and I also pay. In order to compete, these stores are almost obliged to participate in "free home-delivery, free return" policy. As a result, they lose a lot of turnover when a package is returned. In fact, they pay then both the shipping and return costs, so that not much is earned on the product. In addition, small shops also get unsaleable clothing returned. This means that an additional loss is made, because the seller also loses the purchasing costs of the product.

- 7- Do you think we should all pay for parcel service? either for sending or returning? why/why not?
- 8- What could we all do to make online shopping more sustainable?

## **Final assignment**

Based on the previous lessons, write a letter to a household advising the family to live more sustainably. Use the assignments and your answers from the previous lessons in your letter. Include your letter in your document, let your parents read it and let them give feedback.

Make a list of your intentions to start living more sustainably. Think of what you can improve on your:

Energy consumption

Required food / products

Water consumption

Means of transportation

Waste

