

# Innovative Environmental Education ECO-COMPASS MODUL 2

The importance of ecological values and attitudes in the family

Educational material for participants



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**Inovatívne budovanie ekologického povedomia a kultúry rozvíjaním environmentálnych zručností a formovaním postojov občanov s mentálnym postihnutím**

**Innovative building of ecological awareness and culture by developing environmental skills and shaping the attitudes of citizens with mental disabilities**



*Innovative Environmental Education ECO-COMPASS – Educational material for participants*

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The main objective of the project is to support social inclusion and lifelong learning of people with mental disabilities by developing their environmental skills and competencies, shaping their environmental attitudes and responsibilities through education based on international experiences. The project specifically focuses on supporting and developing international cooperation of participating organizations, building, and strengthening partnership networks and professionalization of organizations.

*Innovative Environmental Education ECO-COMPASS ensures* developing the environmental skills and competences of professionals and people with mental disabilities, shaping their environmental attitudes and environmental responsibility through innovative education based on international experience.



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## 1. Introduction

In this module, you will get to know with what you can do at home in the family to protect nature.

We can do a lot to make the household we live in with our family environmentally friendly. Environmentally friendly household means that we do not use preparations and substances that pollute water, forests and air and that we produce as little waste as possible.

Let's see, step by step, what we can do for the health of our surroundings, and thereby, for our own health, at home! You will see that many times we can even save money by taking these steps!

### *1. Ecological household*

Within this chapter, we will present smart shopping. We will go into detail about the fact that when washing dishes, laundry, cleaning and cleaning, we do not only need to pay attention for the amount of water used, but also for the choice of chemicals.

### *2. The ecological use of energy sources*

In this chapter, we will have a look at the different renewable energy sources. We show how we can be energy aware at home. We give useful tips on the little things we can do to make a big difference to energy efficiency.

### *3. Zero-waste household – Thoughtful shopping, waste separation, composting*

In this chapter, we share some of the tricks that shops and supermarkets use to tempt us to buy. We clarify the meaning of the best before dates of the products. We provide information on waste separation practices.

### *4. Mini gardening - microcosmos*

In this section, our aim was to give useful tips on keeping green plants on windowsills, balconies and in pots, which take up little space and are easy to care for and easy to obtain.

## 2. The importance of ecological values and attitudes in the family

### 2.1. Ecological household



#### 2.1.1. What is important to know?

##### Shopping smart



When shopping, you must have noticed that packaging of food is often plastic that does not decompose in the nature.

Did you know that that glass has a degradation time of 1-2 million years, while for a plastic bag, it is 200-1000 years, and for a disposable nappy, it is 550 years?

These substances will pollute the environment in our lifetime, and even in the lifetime of our children, grandchildren and great-grandchildren.

What can we do about it? Buying as little pre-packaged products as possible. It just requires a bit of mindfulness to bring your own bag for the pastry, for the vegetables, for the fruit. It is also very good to buy fresh ingredients and not ready-made dishes. Ready-made dishes also come in plastic containers, and often contain preservatives. Preservatives are the substances that extend the shelf life of our food. Preservatives are also used to preserve fish products, fruit juices, soft drinks, bread, bakery products, salads, margarine, salad dressings, wine, dried fruit and vegetables.

If you buy fresh produce, check which fruit or vegetables are in season. In winter, for example, cabbage, turnips and pumpkin are very good seasonal vegetables. Our grandmothers used to cook with it, and they never thought of looking for fresh tomatoes or peppers on the shelves of the shops in winter. It did not even

exist then! Nowadays we can buy anything, anytime, but its price is paid not only by us, but also by nature. These products are often transported for several days in refrigerated trucks from warmer countries. Exhaust gases contribute to air pollution and to the warming of the Earth. Why? Have you ever heard of the greenhouse effect? You can learn more about this in Module 1.

Even small steps can make a big difference - if everyone has their own glass at home, then it's not necessary to take out a new one every time you drink. One glass a day! This will also save you some of the washing-up water. And by drinking tap water and not buying bottled water, you are also reducing the use of plastic.

### **Dishwashing, laundry, hygiene**



First of all, we need to pay attention to the amount of water used and the substitution of chemicals with nature-friendly substances. Did you know that we can also pour vinegar in the washing-up liquid instead of softener liquid? It will make your glasses and plates just as shiny. Vinegar is completely harmless to living waters, it's a natural, rapidly biodegradable product.

If we wash dishes by hand, it's a good idea to soak dirty dishes for a while beforehand. Very dirty dishes need less time to scrub in running water. You can also use baking soda, vinegar, citric acid or black tea as well.

Instead of having a bath, let's take a quick shower - we consume less water while having a shower. It is worth installing an hourglass on the tile to measure the duration of the shower. It can be interesting if we stick to our self-imposed shower time.

We can save a lot of water by filling a cup with water instead of running water while brushing our teeth. In 3 minutes, you can save about 15 litres of water. You had no idea, did you?

It's a good idea to enquire about the water use of household appliances that use water (washing machines and dishwashers) before you buy.

If you miss the scent of fabric softener, you can add dried flowers or spices (lavender, cloves, mint, lemongrass, star anise, cinnamon stick or dried orange and lemon peel) to the wardrobe.

For washing ourselves, we can use organic products, which are also environmentally friendly and gentle on skin and hair. Such products are made exclusively from natural ingredients. They do not contain any raw materials of animal origin except honey, beeswax and lanolin.

## Cleaning



Also when cleaning, make sure you look at what chemicals you can replace with natural substances. And even some of the cleaning equipment can be replaced. For example, you don't have to throw away a worn-out T-shirt, a pair of socks without a pair or a used toothbrush immediately. They are excellent for cleaning and wiping. The toothbrush is suitable for cleaning places that are hard to reach. Do not be afraid to use tools you

already have at home for cleaning. Did you know that many people use sponge made from loofah pumpkin for washing themselves, that is not only compostable, but can be grown even at home? It is the crop of a plant of the pumpkin family, which takes the form of a sponge after drying.

You can practically cover the cleaning of the entire household by using a few nature-friendly ingredients. The advantage of these materials is that they are versatile, so they can be used in many different places, and their simplicity makes them cheap.

## **Vinegar/citric acid**

We have already written about this. The two materials have similar fields of application. What are they both good for? Descaler, mould remover; disinfectant, so you can safely use it for cleaning any surface (in the kitchen, in the bathroom), for mopping. It is also perfect for cleaning glass and windows surfaces, and can also be applied instead of a rinse aid. It is also perfect for cleaning glass and window surfaces, and it can also be applied instead of a fabric softener.

How should it be used? Diluted with water and poured into a bottle, you can spray it directly onto the surface, using a bottle of a previously used cleaner. When descaling, it makes sense to leave enough time for it to have its effect.

## **Baking soda**

Also excellent for washing, bleaching, spot cleaning and baking. Also scrubbing agent, degreaser, deodorizer (e.g., if it is put in a small bowl in the fridge or sprinkled in shoes). Diluted with a little water, it makes a paste, which is excellent for removing greasy dirt.





## 2.1.2. Questions

### Ecological household

1. Can you grow bananas and oranges?
2. What can vinegar be used for?
3. How to brush your teeth to save water?
4. What kind of cleaning tools do you know that can replace the ones you buy in the shop?
5. What can baking soda be used for?



### **2.1.3. Practical tasks - worksheets**

#### **Ecological household**

##### Worksheet 1

In colour newspapers, look for pictures of vegetables and fruit that are in season! Show them to your peers and tell them about at least one of them and how it can be used to make a dish!

## Worksheet 2

Find half a pair of socks at home and put a dried flower or spice that smells good into it! (lavender, cloves, mint, lemongrass, star anise, cinnamon sticks or orange and lemon peel) Put it in your wardrobe and 2 days later, report to others on what you've experienced.

## 2.2. Ecological use of energy sources



### 2.2.1. What is important to know?

People's use of energy is growing every day. The Earth's energy reserves are already about to run out. We cannot use coal, gas and oil for long. They are getting harder and more expensive to extract. And indeed, we use a lot of devices that need a lot of energy, for example to charge them. The following devices are powered by electricity: telephone, computer, tablet, fan, air conditioner.

Some devices are powered by gas.

What can we do if we want to keep lighting, heating or driving? We must switch to renewable energy sources!

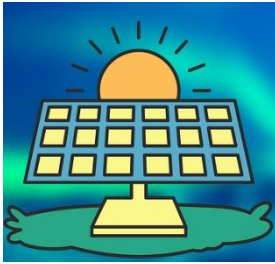


What does renewable mean? It means that it is regenerated every day. Who produces it again? Nature. Renewable energy sources include the energy of the Sun, wind, water, the heat of the Earth and biomass. Among these, solar and wind energy are considered inexhaustible, while the others are available depending

on geographical conditions. Renewable energy sources could include, for example, the use of the Earth's forests. Unfortunately, man has wrongly and excessively destroyed the forests by not making sure that they are replenished, i.e., by not planting as many trees as he has cut down. Therefore, heating with wood can no longer be considered as a renewable energy source.

Let's take a closer look at what exactly renewable energy means!

## Solar energy



Solar energy is the one that we have most abundantly at our disposal. The energy coming to the surface is about 10,000 times more than the energy used by the entire human race. While it's true that countries do not benefit equally from this huge source of energy (some get more, others less), almost all countries have the potential to make use of solar energy. If you hold a globe in your hand, the sun shines less around the north and south poles and most around the equator. Solar energy is collected by solar panels. According to the measurements, Hungary and Romania belong to the moderately-sunny countries. Slovakia has a little less sunshine.

## Wind energy



Wind is one of the most variable phenomenon: sometimes it blows, sometimes not, sometimes it is as strong a storm, sometimes it is a breeze. You must have already seen a huge tower that has blades on the top. When the wind is right, they keep rotating and generating electricity. Windmills used to work like this too, but they were used to grind grain. The force of the wind turned the mill wheels, among which grains were dumped and ground. According to the measurements, Hungary, Slovakia and Romania belong to the countries with medium wind intensity.

## Aquatic energy



Countries with high mountains, rivers with large falls, or with a sea or ocean have particularly good potentials. People have been using it for a very long time because of its predictability and continuity, for example in agriculture for irrigation, but old mills are also driven by water.

## The heat of the Earth



Progressing downwards in the Earth's interior, temperatures rise by an average of  $3^{\circ}\text{C}$  per kilometre. This heat is called geothermal energy. This energy is unlimited and continuous. It is not an inexhaustible source in the form of thermal water.

It is relatively cheap to extract and does not pollute the air. It has been around for a very long time, used by the Romans to heat buildings and for medicinal purposes (such as treating eye and skin diseases). Even today, people like to go to the thermal baths. The elderly like to spend long hours in the warm thermal water because it is good for pain.

## Biomass

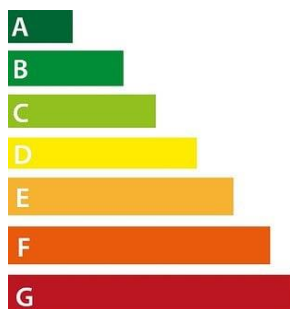


This very interestingly named renewable energy is nothing more than waste that is burned to produce heat and electricity.

What are these wastes? They can be of plant origin, such as straw, corn stalks, rapeseed, sunflower, sawdust, trees, fodder crops (sugar beet, millet, rye). They can be of animal origin, such as fats, proteins,

manure. And some of this man-made waste is also suitable for biomass.

## How can we be energy aware at home?



Washing machines and dishwashers should be operated at maximum capacity, i.e., loaded before starting. Check if there is an ECO program on your dishwasher! The ECO programme is an energy-saving mode that reduces the energy and water consumption of the dishwasher. The manufacturer of the device has also thought about nature.

Another important indicator to look out for is the energy efficiency rating of household appliances. It is mandatory on all appliances, whether they are vacuum cleaners, refrigerators or washing machines.

The little things – as we can now agree – can make a big difference. Further useful tips:

- Always turn off the lights in rooms you are not staying at!
- In winter, you do not need 25°C, let's make it rather 20°C. At night it can be 18°C, you'll sleep much better.
- If you're not watching TV, turn it off! Background noise is unnecessary!
- Replace your light bulbs with energy saving ones!
- Don't put the fridge near a radiator!
- Think about what you would like to eat and take all the products out of the fridge at once! Don't open it every minute!
- Ventilate briefly!
- If the closures are not renovated, use draft snakes for the gaps!
- Laying carpets on cold pavements in winter increases your sense of comfort!
- You'd better use shades in the summer, air condition is not always needed!





## 2.2.2. Questions

### Ecological use of energy sources

1. What kind of devices use electricity?
2. Is heating with a renewable energy source?
3. How do we harvest solar energy?
4. What materials are burned in biomass power plants?
5. How can we save energy at home?





### **2.2.3. Practical tasks - worksheets**

#### **Ecological use of energy sources**

##### Worksheet 1

Draw a windmill and tell the others how it works!

## Worksheet 2

Find the Earth online or in an atlas and draw it! Look where the North and South Poles are and where the Equator is! On your own drawing, mark the North and South Poles and the Equator! Draw a sun, where the sun shines a lot!

## 2.3. Zero-waste household – Thoughtful shopping, waste separation, composting



### 2.3.1. What is important to know?

#### Thoughtful shopping



The amount of household waste can be reduced. How? Don't buy what you don't need! Stop buying unnecessary things!

Shops and supermarkets have a very clever way of getting us to buy. Did you know that the more colourful the packaging, the more we want to buy it? Think about whether you really need it before you put it in the basket. Don't go to the shop hungry,

because you'll spend much more on food. The smell of freshly baked bread or pastries near the bakery counter is also a tempting you to buy. If we're not mindful enough, we're bound to end up with a surplus anyway after our shopping. Think about it! Household waste was not waste at the beginning of its „career“. Its production and transport required energy and was detrimental to the environment. Unused food is the most expensive thing in the world. No one gets a good living from it, and we pay not only to produce it but also to dispose of it.

Best before dates of products on sales are short, they need to be consumed quickly. The expiry of the best before date does not necessarily mean that the food has to be thrown away. If stored in unopened, intact packaging, according to the manufacturer's recommendations, and there are no significant changes (taste, colour, smell, texture) are noticed after opening compared to normal products, then the product can be consumed weeks or even months after the expiry date. A tin can be good for up to 1 year after expiry. But hard cheeses, sour cream, kefir will also last longer in the fridge.

What can we do?

1. Go shopping with a full stomach and with a shopping list!

2. Check the best before date of the food to see until when you need to consume it before you buy it!
3. Check the best before date also by tasting, do not automatically throw the product away!

Even dried bread and buns can still be eaten, you just have to find a way. If you grind it, it's good for crumbs. You can make a very tasty curd from fermented homemade milk.

## Waste separation



In the case of products that cannot be recycled in any way, you need to know how to sort them correctly.

### Plastic

The plastic bins are yellow. Bottles and cans should be pressed together to save space. Do not throw away packaging materials contaminated with oils, chemicals, grease.

### Paper

We throw cardboard, paper wrappings, leaflets, newspapers and office paper into the blue bin. Tetra pak does not belong here. Tetra pak is for example the drink box that has 3 components: paper, plastic and aluminium. Tetra pak is for example the drink box, that has 3 components: paper, plastic and aluminium.

### Glass

The container used to separate the glass is green. This includes glass bottles, drinking glasses and glass plates. Do not under any circumstances throw contaminated glass (especially those contaminated with sand or soil), light bulbs, porcelain, ceramics and glass combined with other materials (metal wire), technical glass and returnable bottles into the green bin!

## Metal

In the red bin, we throw all kinds of scrap metal (cans, soft drinks cans, tinfoil). This does not include contaminated metal packaging, and not even combined metal packaging (coffee, toothpaste, etc.) or packaging containing hazardous substances.

## Organic waste

You can throw grass, leaves, flowers, thin twigs, coffee, tea, fruit and other organic waste in the brown organic waste bin. Compost if you live in a house with a garden!

Once you have learned which bins you can throw your waste in, we should also talk about how to rinse out the bottles. For example, there is always a little sauce left at the bottom of a mayonnaise or ketchup bottle.

## Composting



Composting is one of the oldest and most natural waste reduction methods. If you live in a house with a garden, it is enough to have a separated area, even made of scrap planks, where you can keep piling household waste for composting and where the rotting process takes place. But also, a semi-shaded corner is suitable, where you can pile up your vegetable waste. Nature will do its job.

If you compost (or find a place to take your waste for composting), you will reduce your household waste by at least 30%. There is little to do regularly with a composter, just turn and sift it once a year. And throughout the year, you simply just pour all natural materials into it. An excellent source of nutrients for plants instead of fertiliser.

Autumn is the period when most green waste is produced. This is when the leaves from autumn pruning add to the amount of household waste. Autumn is the period when most green waste is produced. This is when the leaves from autumn pruning add to the amount of household waste. The solution is not to

burn it! Burning wet garden waste is extremely harmful because it significantly deteriorates air quality and contributes to smog. Simply throw these onto the compost, too. In compost you can add not only plant waste, but also many household wastes: animal fur, bird feathers, egg shells, shavings, natural paper, dust, crumbs.



### 2.3.2. Questions

**Zero-waste household – Thoughtful shopping, waste separation, composting**

1. What example of tetra pack packaging can you give?
2. Why is it not good to go to shopping hungry?
3. Do you think the following statement is true or false?

*The best-before date is indicated on the products with a longer shelf life, so its expiry does not necessarily mean that the food should be thrown out. The quality of some of these foods may already be lower than that of more recently made product. However, if stored in an unopened, intact container, according to the manufacturer's recommendations, and after opening the container, there is no significant change in taste, colour, smell or texture compared to a normal product, the expired product can be consumed even weeks or months after the expiry date.*

4. What kind of materials can be composted?
5. What can compost be used for?



### **2.3.3. Practical tasks - worksheets**

**Zero-waste household – Thoughtful shopping, waste separation, composting**

Worksheet 1

What commodities can be made from waste? Write it down or draw it!

## Worksheet 2

Draw a picture of what green plant parts can be composted!



## 2.4. Mini gardening – microcosmos



### 2.4.1. What is important to know?

When spring arrives, everyone wants to enjoy gardening. How much better it is to have your morning coffee in a green, flowery setting, right? Especially when our plants are not only beautiful, but also their stems, leaves, flowers and fruits are also edible.

If you want a taste of home, but live in an apartment, you can also bring a bit of nature into your home. Depending on the size of the apartment, you can even put a few pots on the windowsill, balconies or hallway, in which you can grow your mini garden week after week. This is the real urban jungle!

In addition to the edible benefits, caring for them provides creative relaxation and can help reduce everyday stress and tension by achieving a kind of a meditative state.

#### Which plants should be planted?



The aim is to choose seeds or seedlings that require little space, are easy to care for, are easy to obtain and will bear crops in a relatively short time. Primarily herbs are suitable for this purpose, which can either be used freshly torn from the stem or dried to flavour our dishes. Basil, chives, rosemary or thyme are perfect for this purpose. We can

also make our tea and lemonade from ingredients from our own kitchen garden. In this case, lemongrass, lavender and mint may also be considered.

In case we have a little more space, we can even grow your own tomatoes, peppers, chillies, but even courgettes and lettuce on the balcony. One of the

most popular fruits that is easy to care for is the perennial strawberry. But it all depends on our curiosity and our willingness to experiment!

### Let's get to gardening! How to treat which plant?



**Basil** – Do not plant it somewhere where there is too cold. It likes much water, rain, but besides that, it does not require much care, and it will survive winter! Do not overwater it, but it does not like dry soil, either.

**Chive** – It renews year by year, in spring, it blooms again after the winter rest. It is a good idea to cut the leaves off at the base, for example when making spiced butter or margarine. It might bring purple flowers, but they are edible, too, and we can even use them as decorations. It may bring purple flowers, these are also edible, but we can even use them as decoration. It grows best in light, moist, chalky, nutrient-rich soil.

**Thyme** – This indispensable herb from Mediterranean cuisine also comes to life after the winter. It can be planted by sowing seeds or planting, the latter is more promising. It likes warmth and sunlight, so don't put its pot or box in a shady spot! Although it tolerates drought well, water it regularly for a year after planting to keep the soil moist!

**Chili** – It can also be grown in a small place, in a pot. We can order the seeds by post as well, but if we grow it from the seed, initially, it requires warm surroundings. It can only be planted on the balcony later, when also the temperature outside is warmer (by around May).

**Pepper, tomato** – In the spring, put some manure into its earth plant the seedling into the flower box when we plant the seedling into the box. It is better if we choose a type that does not grow high, because it can easily spill out. Sprinkle it every day, if it is too hot. We can plant herbs among the seedlings, too.



#### **Tips and advice**

- Because of the dust and smog from the street, the balcony box where you plant your edible herbs should preferably not be placed at the street front.
- It is advisable to place the pots where they will get at least six hours of sunlight.
- Choose pots with holes at the bottom to drain excess water and avoid mould.
- When watering, water the soil, not directly on the stems or leaves of the plant!
- Pinching off dry leaves and shoots and pruning is good for stimulating further growth.
- Place the boxes out of reach of pets and children for safety!



To avoid disappointment, we must also pay attention for not piling up too many small pots. We should also make sure that the roots of the plants do not rot (by water drainage). They should not be neither over, - nor underwatered. And you also have to take action against caterpillars and other pests. Natural substances that can well be used against them are garlic, chili peppers and soap.



## 2.4.2. Questions

### Mini gardening - microcosmos

1. Where do you live? Do you think you can make a mini-garden?
2. What are herbs? List 1-2 examples.
3. What foods can we eat with chives?
4. What foods can we eat with chives?
5. How do you think a plant should be cared for?



### **2.4.3. Practical tasks - worksheets**

#### **Mini gardening - microcosmos**

##### Worksheet 1

Draw a picture of the tools that can be used for plant care.

## Worksheet 2

Draw a picture of how a plant develops as it grows.

### 3. Quiz

#### 1. How can we buy fewer pre-packaged products?

- a) bring with us our own bag for baked goods, vegetables, fruit
- b) we only buy in large stores
- c) we do not buy anything that is pre-packaged
- d) we cannot do anything; we always have to buy plastic bag in the shop

#### 2. What does renewing energy source mean?

- a) It means that there is no more from it.
- b) It means that it reproduced every day.
- c) It means that its price is very low.
- d) It means that there is very few of it.

#### 3. Which activities are NOT right if we want to be energy aware at home?

- a) Always turn off the lights in rooms you are not in!
- b) In winter, you don't need 25°C in your home, make it 20°C and get dressed!
- c) If you're not watching TV, turn it off!
- d) Water is not expensive in Europe, feel free to use much of it!

#### 4. What does composting mean?

- a) When the decomposition process of green waste takes place.
- b) Canning compotes.
- c) Garden work
- d) Eco-aware shopping.

**5. Which one is NOT a balcony plant?**

a) basil

b) chives

c) apple tree

d) chili

Correct answers:

1. a), 2. b), 3. d), 4. a), 5. c)



## Coordinator



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