

CARBON MAP

GOAL

To map your surroundings and find places that emit a lot of greenhouse gases, mainly CO₂. In contrast, find those places where carbon is bound and removed from the atmosphere.

YOU NEED

a large safe object representing the world's problem for the game, paper, pencils, possibly a map of the area, the worksheet

notes

1 IT'S NOT MY PROBLEM

Start with a short story about how the world has known about the climate change problem

for a long time but how slow it is to solve it. Individual countries, organisations, companies and individuals transfer responsibility and delay any possibility of a solution.

You can demonstrate it with a team game. Solving the climate emergency is represented by a heavy object that is safe enough to be thrown outside on the field or meadow. It can be a bag filled with rags, a rope, or a big ball.

First everyone tosses it around. Each child is a country, organisation, company or individual and keeps throwing it at others to solve the problem. A short while should be enough to find out that nothing much happens this way, except everyone gets tired.

Play a jogging variant if there is time. The class is divided into two groups (e.g. two countries arguing over who should solve the problem). A heavy bag represents a problem that needs to be solved. Place it in the middle of a field or meadow. The two groups each start in their own territory then run to the "problem" as quickly as possible and throw it as close to the other group's territory as possible. The problem can only be thrown, it cannot be carried. Whoever touches it first can throw. The goal is to throw it into the opponent's territory. The game may not have a winner. It is important to experience the "uselessness" of hard work that does not lead to a solution.

After the game a quick reflection is important.

- How did you feel in the game?
- How did the game go?
- Was the game meaningful?
- What would you recommend to countries/ organisations that can't agree on a solution?



2 CARBON CYCLE

In order to be able to give good advice on how to solve the climate crisis, the children need to understand the cycle of carbon and other greenhouse gases. Look into the worksheet and comment on the opening image. What does it depict? What releases carbon? What absorbs carbon?

Initially the children work in groups and then share together. In the pictures, you can mark those places and activities that contribute to the storage of carbon (in soil, plants, elsewhere) with green colour. Use a red colour to mark the places and activities responsible for releasing CO₂ into the atmosphere.

3 CARBON MAP

Explore your surroundings. Take the children outside to investigate your city, village or in the school vicinity – a park, garden, parking lot. Look for places that release or absorb CO₂ from the air.

Divide the children into smaller research groups. Every group draws a map of the neighbourhood then all groups meet and go through the places in the vicinity of the school together. Discuss what you see and have the children draw it.

Again, they can use the green and red colours to depict CO₂ absorption or release.

Look for and discuss:

- trees, forests, shrubs
- gardens, parks
- wilderness
- bodies of water, rivers, streams, reservoirs
- repair shops
- recycling bins
- shops with local food, organic products, zero-waste shops
- solar panels, geothermal and other renewable energy sources
- fields without vegetation
- heavy traffic
- solid waste boilers
- fertilisers
- meat shops and farms
- cooling equipment, air conditioning
- air transport
- shops that produce a lot of waste...

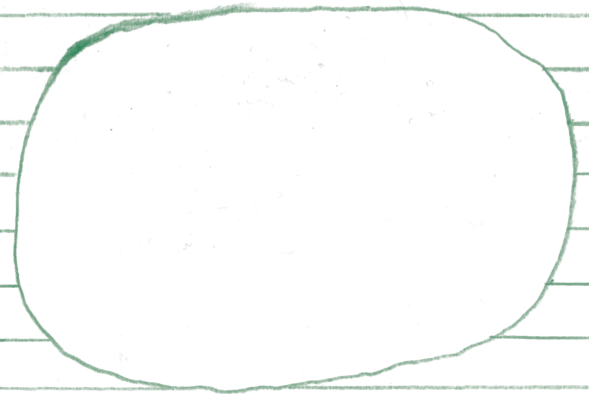
! TIP:

If your trip with the map is lengthy, we recommend including a break for a snack – an outdoor picnic. AND you can cater it using foods with low carbon footprints. Or, on the contrary, compare the size of the carbon footprint different foods have – how they were made, where they came from, how they were packaged, etc.

4 REFLECTION

At the end of the expedition, groups meet together and share what they came up with. You can create a joint map. Plus, it's great when children write down ideas about what else could be done for higher CO₂ absorption and lower release. This list and map can be presented at the municipal office or to other persons who have the power to make change.

How did the children
enjoy the lesson?





CARBON MAP CHECKLIST WORKSHEET

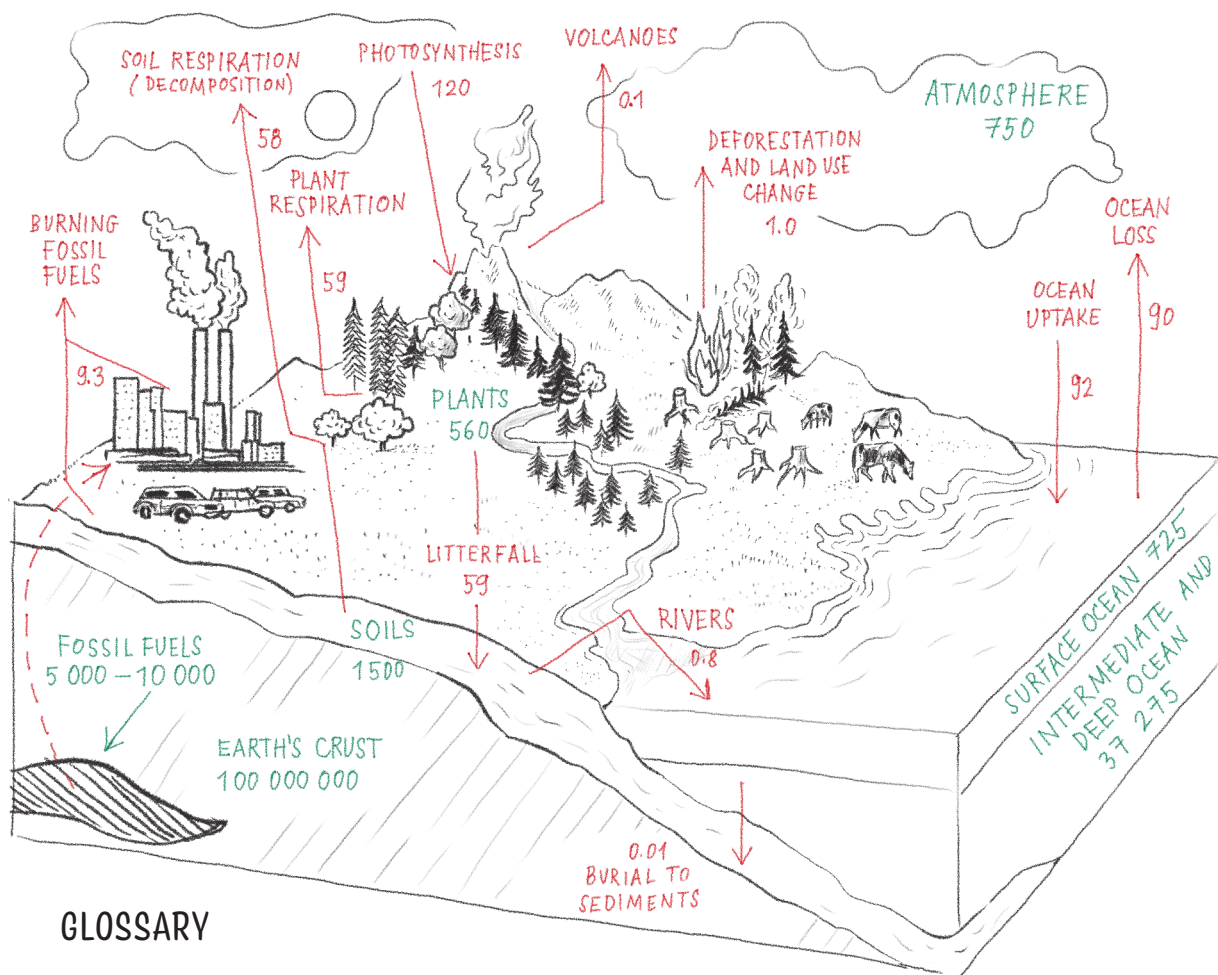
GOAL: To map your surroundings and find out the places that emit a lot of greenhouse gases, mainly CO₂. In contrast, find those places where carbon is bound and thus removed from the atmosphere.

OUR GROUP:

DATE:

1. ESTIMATE: HOW WELL DO YOU KNOW THE CARBON CYCLE?

THE GLOBAL CARBON CYCLE



GLOSSARY

Units:
Petagrams (Pg)

Carbon storage:
Reservoirs in which carbon gathers and is bound. Measured in petagrams.

Carbon flows:
They depict how carbon moves between storages. Measured in petagrams per year.

2. CARBON MAP – EXPEDITION TO OUR NEIGHBOURHOOD

Draw a map of your surroundings and mark places and activities that emit or bind CO₂.

3. OUR CONCLUSION

Our discoveries:

The biggest sources of CO₂ in our area are:

The most CO₂ in our surroundings is bound by:

Who can you show your findings and maps to and make a difference?