

Student's worksheet

Environment

Let's have a look at some of these problems in more details.

The green house effect and global warming

The Earth is surrounded by the atmosphere. The atmosphere lets the heat from the sun reach the ground and then it prevents some of it from escaping back into the space. That's OK, we need the atmosphere. The problem is we create gases that pollute the atmosphere and that's why it keeps too much heat and the Earth becomes hotter.

These gases are e.g.:



- carbon dioxide (CO₂) - the main source of CO₂ pollution is burning of coal
- nitrogen oxide (NO) – it is produced by cars, factories and by coal burning power plants
- methane (CH₄) – it is created by rotting plants and by deteriorating household garbage

What could happen in the future?

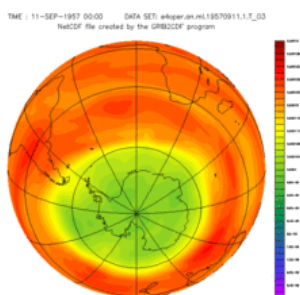


- The ice around the North Pole and the South Pole could melt.
- The melted ice could cause the sea levels to rise.
- Places near the sea level could be flooded.
- Some places could become too hot to live.
- Many farmers' crops could no longer grow.

Task 3: What can we do?

Holes in the ozone layer

Ozone is a form of oxygen. The ozone layer above the Earth is a shield that protects us against ultraviolet (UV) light from the sun. Some UV light is important, e.g. it helps the plants grow, but much UV light can cause problems.



In 1985 scientists discovered a big hole in the ozone layer over Antarctica and in 1988

another hole over the Arctics.

**Task 4: What problems can the holes in the ozone layer cause?
What can we do?**

Air pollution and acid rain

You may have some experience with the air pollution, because many towns in our country have polluted air. The air is polluted mainly by cars and factories.



The polluted air is bad to breathe and it can make you sick. It can cause many illnesses particularly among small children and old people. But air pollution is also bad for plants and animals. It can poison trees and crops and even kill the whole forest.

The rain which is polluted is called “acid rain”, but pollutants pollute snow, hail and even fog too.



How does the rain become acid? The problem comes mainly from burning of fossil fuels, from exhaust fumes from cars and from smoke from factories. All these sources release sulfur dioxide (SO_2) or nitrogen oxide (NO). These chemicals mix with other chemicals and water vapour in the atmosphere and form sulphuric acid (H_2SO_4) and nitric

acid HNO_3). Sunlight turns these acids into poisonous oxidants which fall down in rain. It poisons fish, kills trees, damages buildings and monuments, causes respiratory diseases (e.g.: asthma, bronchitis). The worst thing is the acid rain doesn't often fall on the places which produce it. The wind carries it from one place to another.

Task 5: What can we do?

Water pollution

All the people, animals and plants on the Earth need water to live. But will there still be enough clean water in future?



There are many sources of water pollution.

E.g.:

- Industrial waste
- Farming – a lot of fertilizers run off farmland and contaminate the water supply
- Households
- Sea accidents (tanker accidents and oil spills)



Task 6: What can we do?

Too much trash

How many things will you throw away today? If you think about it, you may be surprised how much trash you produce.



The problem is what to do with it. About 80 % of the garbage ends up in dumps.

About 10 % is recycled and 10 % is

incinerated. But we are running out of space - most of the dumps will be soon full.

Task 7: What can we do?

Extinction of plants and animals

Do you know these animals?



They are: a sea otter, a caretta (sea turtle) and a Siberian tiger and they belong among endangered animals. Many other species around the world are endangered, mostly due to human activities, such as building roads and cities. Some are endangered, because we consider them valuable or

attractive. E.g.: elephants are killed for their tusks, whales for the oil and meat, seals for their fur etc.



We also cut down rainforests, mostly to create farmland, but they are very important, because they provide home for many other plants and animals. And the most important thing is the rainforests produce the oxygen which we breathe.

Task 8: What can we do?