



WebQuest

Introductory level

Make Earth Cool Again





WEBQUEST NAME:

Make Earth Cool Again

WEBQUEST LEVEL:

Elementary Level

INTRODUCTION

What exactly is a WebQuest? A WebQuest is a research activity that allows you to learn new interesting things and acquire knowledge. At the beginning of each WebQuest you will be given some tasks and you will try to complete these tasks as a real scientist. You will search the Internet, where you will gradually find all the information that will help you fulfil your scientific tasks. Each WebQuest has different tasks and a different topic.

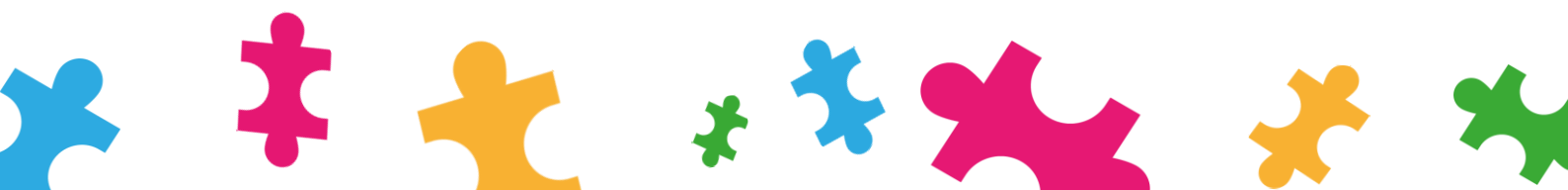
This WebQuest is called "Make Earth Cool Again". Did you know that according to the United Nations, the average temperature has increased by 0.74 ° C over the last 100 years, and sea levels have risen by 20 centimetres in some parts of the country since 1870? Or that the ice in the Arctic is melting so fast that if it continues like this, the last piece of summer sea-ice in the Arctic is expected to melt away in just 20 years? According to the Worldwide Fund for Nature, polar bears will be wiped out by the end of the century unless more is done to tackle climate change, and that would be a shame. Don't you think it's time to do something about it?

Your first task in this WebQuest will be to find answers to the following questions:

- What is global warming?
- Why is the Earth warming?

Your second task will be to find out what global warming causes to our planet.

Your third, final task will be to find out what are the dangers of rising sea levels?





TASKS

This WebQuest will make you an expert on global warming. You will be able to discuss global warming and you will be able to tell a short story about it. A story about what global warming is, why is the earth warming, the impacts of global warming on our planet and how dangerous melting glaciers can be. Create the story about global warming by completing the following tasks. Make short notes to tell the story at the end of WebQuest.

TASK 1

Find answers to the following questions:

- What is global warming?
- Why is the Earth warming?

TASK 2

Find out what harm global warming causes to our planet.

TASK 3

Find out what are the dangers of rising sea levels?

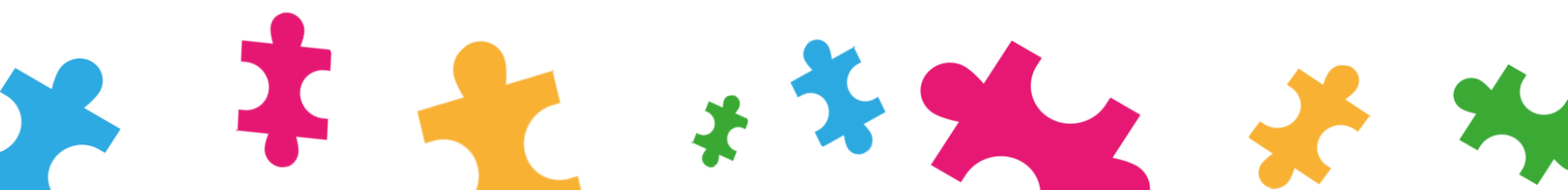
PROCESS

TASK 1

Watch the following video to find out what global warming is and what causes it.

<https://edu.ceskatelevize.cz/video/806-globalni-oteplovani>

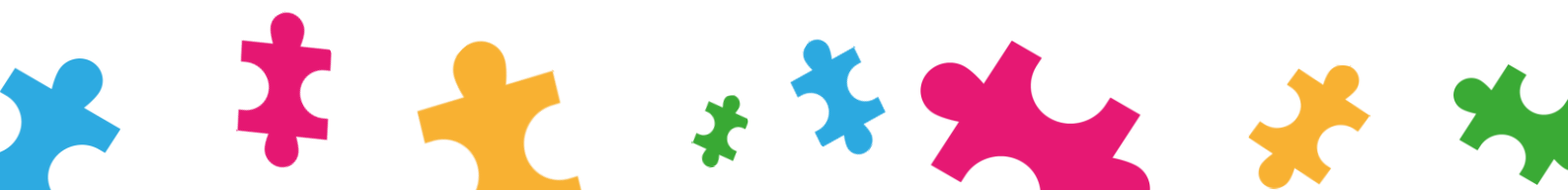
What do the following pictures show and how are they linked with global warming? Try to explain it in your own words.

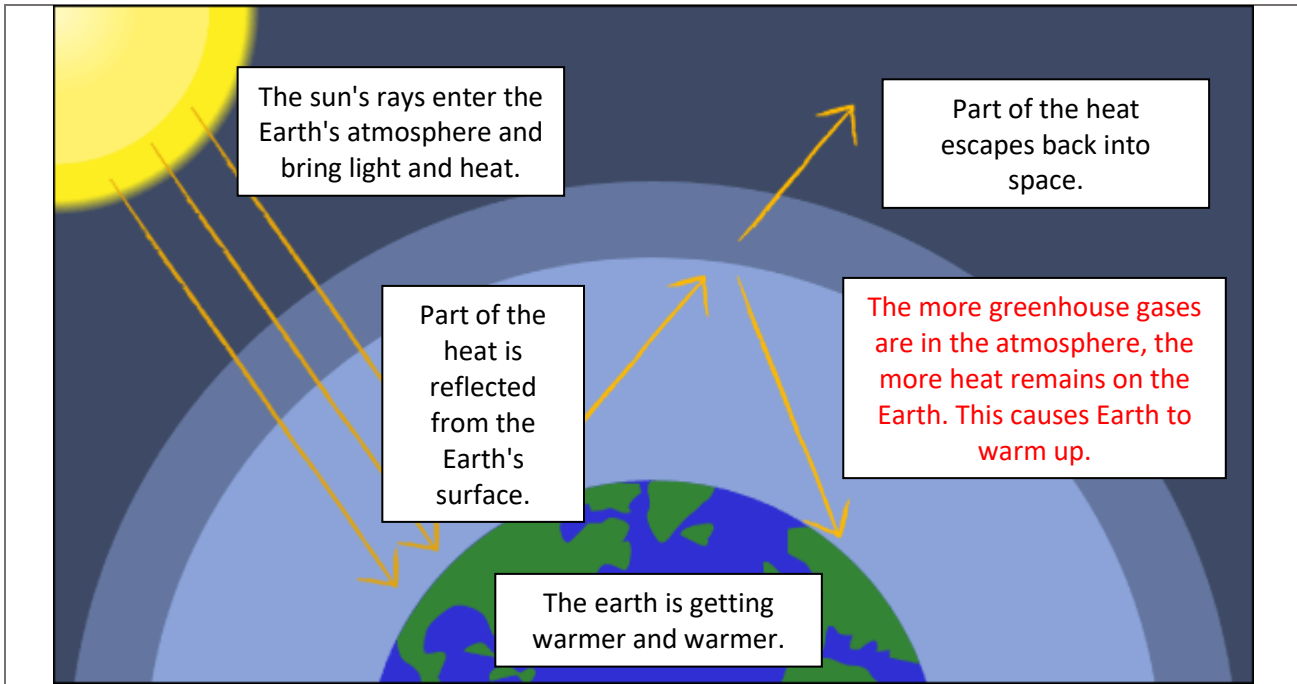




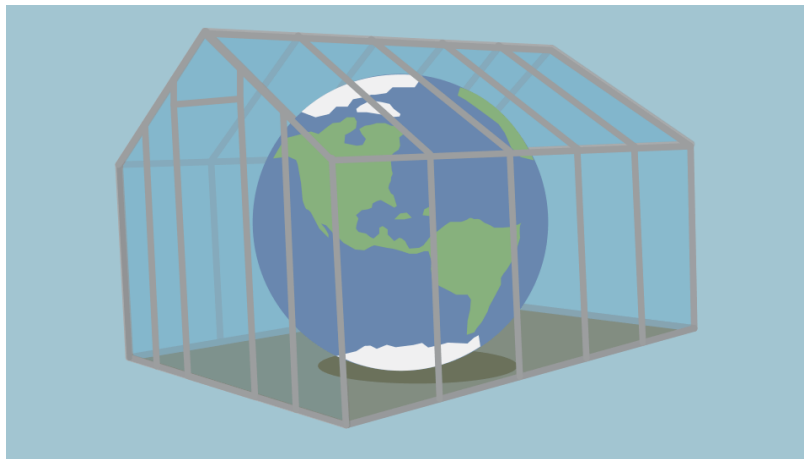
You have learned that the term “global warming” means that the average temperature on our planet is rising. Over the last 100 years, the temperature has risen by more than 0.5 ° C. And who is the major cause of global warming? Well, we the human beings are!

Now let's look at a picture that shows the Earth and its atmosphere, which is the Earth's envelope. The Sun is a source of heat and light for the Earth. And greenhouse gases play a vital role in maintaining the right temperature on the Earth. Greenhouse gases increase because of the human activity and that's why the average temperature on Earth rises. And that has an impact on our lives and the environment. Look at the following image and try to describe how greenhouse gases work.

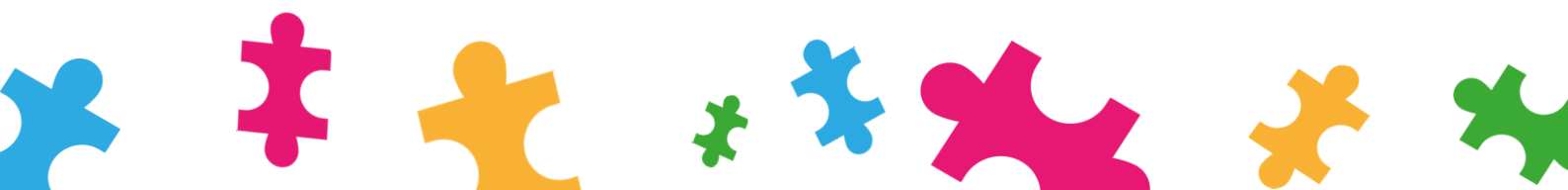




Global warming is caused by greenhouse gases in the atmosphere, which amplify the greenhouse effect. The greenhouse effect means that less heat from sunlight returns to space, so more heat remains on Earth. The most common greenhouse gas is carbon dioxide (chemical formula CO_2) and it is created by humans, for example, by burning black coal, oil, and natural gas. Trees absorb CO_2 from the atmosphere, but due to mass deforestation, the greenhouse effect intensifies. It's also the gases from vehicles which are a significant producer of CO_2 .



We can compare the Earth to a greenhouse. Unfortunately, the earth is getting warmer, and it causes a lot of unpleasant changes for humans and animals.



TASK 2

Now you will see how global warming changes our planet. Watch a short video and give 2 examples to see how our planet is changing due to global warming.

https://www.youtube.com/watch?v=O_a93stO6Vc&ab_channel=TopTrendingCZ

You found out that our planet is changing due to global warming - lakes and rivers are drying up, glaciers are melting. However, global warming also has an impact on agriculture, for example - rising temperatures adversely affect the growth of wheat, corn and barley. According to the EU, some agricultural crops could even stop growing in Southern Europe. Global warming is also changing the nutritional value of, for example, rice, potatoes and grain. These crops are no longer so high in protein, zinc, iron and vitamin B.

Climate change also affects us and our health. People do not have the conditions to grow crops because of the drought, that's why they are forced to migrate. What are the impacts of global warming on our health? It may cause breathing difficulties or heart diseases. Mosquitoes thrive in regions with warm temperatures, and they spread the disease easily. Countries in West and Central Africa are much more likely to be affected by malaria, and because these countries are poor, they will not be able to afford sufficient countermeasures. In Europe, tick vectors have increased in density. Ticks transmit Lyme borreliosis and tick-borne encephalitis due to frost-free winters and wet summers.

According to World Health Organization research in 2002, more than 150,000 people died from the indirect effects of global warming, including food insecurity, heart diseases, diarrhoea, malaria and other infections. Most of the victims are from developing countries.

You did a great job!
We are approaching to the end of the WebQuest.
Just one more task.

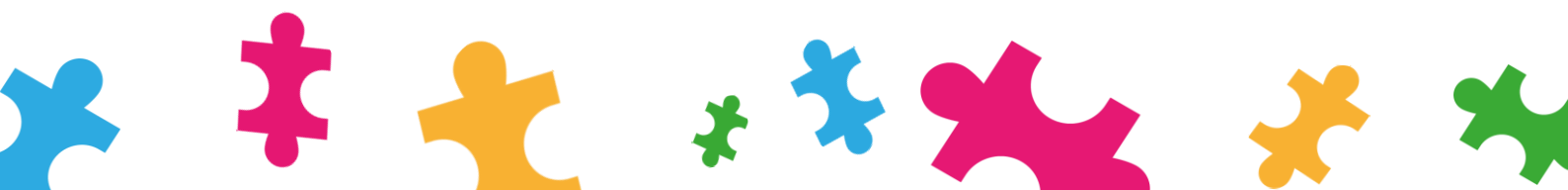


TASK 3

Now find out why ocean levels are rising and how it affects our planet. You will find all the information in the following article.

<https://www.novinky.cz/veda-skoly/clanek/hladiny-mori-rychle-stoupaji-varuji-vedci-z-panelu-osn-40297667>

In the following video, you may repeat all the information you learned in this WebQuest. There are also some tips for you on how you can reduce the production of greenhouse gases and thus protect our planet Earth.





https://www.youtube.com/watch?v=jD5-voQwyzw&ab_channel=Diakonie%C4%8CCE-St%C5%99ediskohumanit%C3%A1rn%C3%ADarozvojov%C3%A9spolupr%C3%A1ce

This is the end of the WebQuest about global warming. To prove that you are an expert on this topic, tell someone a story about it. Start with the definition of global warming, continue with the causes of global warming, what are the impacts on the Earth, explain the risk of rising sea levels. If you can tell the story, it proves that you already know a lot about the global warming.

You also accomplished the last task of this WebQuest perfectly!



EVALUATION

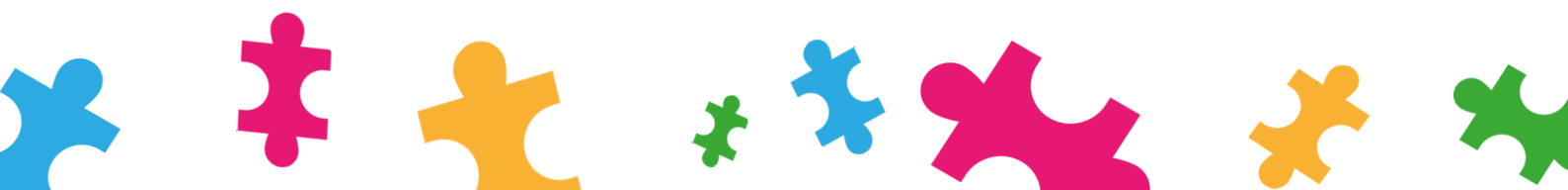
You have successfully completed several tasks in this WebQuest. Try to answer the following questions:

- Which knowledge from this WebQuest was just a repetition for you, because you already known the answers?
- What knowledge was new for you?
- Why should people have the knowledge contained in this WebQuest?
- If you had to say a few words about the global warming, what would you say?

CONCLUSION

In this WebQuest, you gained new knowledge about global warming. You already know that the average temperature on the Earth is still rising. You also know that global warming is caused mainly by human activities, such as the mass deforestation, the burning of fossil fuels, and using transportation. You've learned that rising temperatures cause glaciers melting and that's why the ocean levels are rising. And why it is necessary to start to do something about global warming? Because it's dangerous not only to nature but also for the human beings. You can start saving our planet now. Start, for example, with going to school or to a shop on foot or use a bike instead of going by car or by bus. If we all start to do a little to save our planet together, we will make a big difference.

Congratulations, your knowledge of global warming is very good now!





GRETA

Challenge-based Learning in Primary Schools for Climate Change Awareness



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