

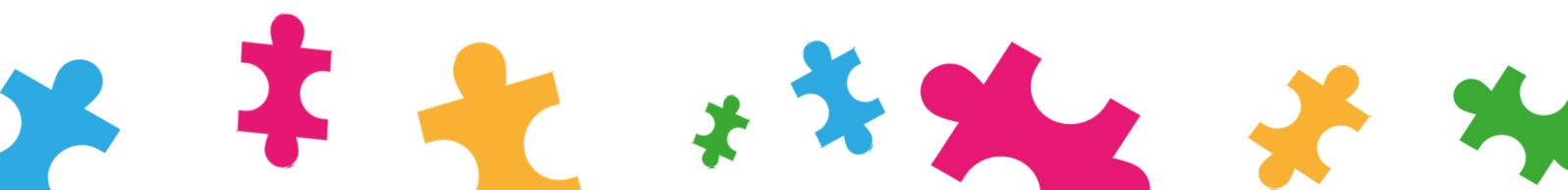


WebQuest

Make Earth Cool Again



TITLE OF THE WEBQUEST:	Make Earth Cool again
WEBQUEST LEVEL	Introductory Level
INTRODUCTION	
<p>More and more often we hear about global warming and the "greenhouse effect". Is global warming a natural phenomenon or is it exclusively connected to human activities? The climate has always changed on Earth, even in a very extreme way. The analysis of "ice cores" (Antarctic ice cylinders trapped in the poles for hundreds of thousands of years) have indeed given us a proof of the climate in the last million years (Paleoclimatology). The results make us believe that there have always been very cold periods which alternated with warmer ones. These cyclical variations are closely related to the slow variations of Earth's orbit around the Sun.</p>	
<p>However, in the last period, particularly in the first half of the 20th century, something new has occurred. The temperature has increased at an unprecedented pace, and this is due to human activities. They have increased the concentration of greenhouse gases in the atmosphere, thus altering the natural greenhouse effect and consequently overheating the planet. As a result, there have been a series of other consequences such as sea level rising, increasing climatic extremes, melting ice and others, which in turn have a direct impact on our lives. But what is the relationship between pollution and climate change? What causes climate change and what are its consequences?</p>	
<p>Pollution and climate are closely linked for several reasons. For instance, the same sources (such as industries and traffic congestion) that release the main polluting compounds in the air (like fine particles or nitrogen oxides) are also responsible for carbon dioxide emissions, which is one of the main anthropogenic greenhouse gases responsible for global warming.</p>	
<p>In addition to this, there is an even more subtle link. Some pollutants, e.g., substances that make the air unbreathable and harmful, can also act as "climate-altering" substances; in other words, they can alter the climate. An example is the already mentioned thin dust and the famous black carbon. When the black carbon is carried away by the winds, it can reach high altitudes and settle on snow and glaciers, making these white surfaces darker and more likely to heat up, and therefore to melt ... and that's alarming, isn't it?</p>	
<p>Can we take action to reduce this phenomenon? If so, how? Earth needs us. It is our home, and it provides us with the resources to survive. If Earth lives, we live too: a statement as simple as essential for the future. We are called to action to respect and protect our planet through daily actions. What can each of us practically do to reduce global warming? We can do a lot. There is a vast array of practical things we can change in our daily routine. For example, reduce waste, be more eco-friendly when we travel or go to school (preferably on foot or by bike), recycle, don't throw away objects that are reusable or still in good condition.</p>	



We must bear in mind that every object produced means on the one hand energy and resources consumption; on the other hand, polluting and climate altering emissions. Children can help adults to follow a more sustainable lifestyle, for example by limiting the use of their own vehicles. It is true that these small things would be vain without **proper action from government and institutions** (for example, cutting greenhouse gas emissions of anthropogenic origin to produce fossil fuel free energy). However, it doesn't mean we don't have to try; on the contrary, **good deeds are contagious**.

Let's get to work and make our planet a better place. But how? Let's start gathering information about what is happening and then act more responsibly.

In order to make our WebQuest and explain these phenomena, we must start from some important questions and develop a plan that leads to answers supported by scientific evidence and tangible feedback.

Let's get started!

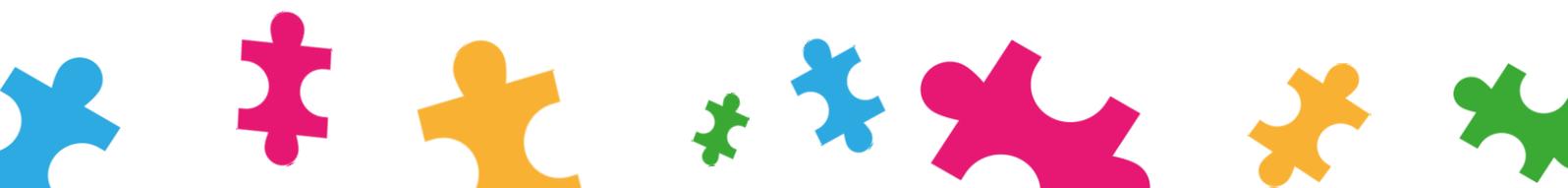
TASKS

Your class has decided to participate in an Environmental Contest entitled: "**2030: THE FUTURE IS NOW**" organized by the Ministry of Education in collaboration with an environmental association. At the end of the course, students are required to produce a multimedia work using the different languages of communication. The chosen format is a video presentation that uses cartoon characters of the tool PowToon. The class will be divided into groups of 4 students. Each student will become an expert in a specific aspect of global warming. You will choose a specific role from the list below, in which you will become an expert. Such experts will find information about the impact of global warming in that area.

1. Activist for animal and human rights (effects of global warming on human communities and animals).
2. Pollution control specialist (greenhouse gases monitoring in the atmosphere caused by human and non-human activities).
3. Meteorologist (effects of global warming on the climate).
4. Expert in global warming of the atmosphere (causes of warming)

The best and final work will be chosen and will be assessed by a jury of specialists made up of journalists, artists and environmental experts, who will identify the winners based on the given categories in the different school levels. Contest winners will receive a cash prize to promote environmental initiatives.

Before kicking off, you will first need to do some research and when you become an expert in your field, you will work together to make a presentation. Select an engaging title, as if you were running a campaign to raise awareness. Your video presentation can include infographics, texts, graphics and each group member will have to report for his or her field of investigation. Also use





file sharing platforms to work in a team without necessarily meeting in person. You will also need to demonstrate that you can connect with each other.

PROCESS

Step 1: Find the right direction

In this WebQuest you will be guided throughout a series of activities that will help you and your classmates learn about the issues addressed. First, it is good to read up on the several issues from different perspectives. In order to do so, you need to keep in mind the following questions:

- What is global warming and what are its causes?
- What are the effects on people?
- What are the effects on animals?
- What are the effects on ecosystems and habitats?
- How is the climate changing?

If you want to knowledgeably answer these questions, here are some resources:

<https://www.focusjunior.it/scienza/ambiente/cambiamento-climatico-che-cose-il-riscaldamento-globale-e-perche-va-fermato>

<https://www.nationalgeographic.it/ambiente>

<https://www.pandaclub.ch/it/clima-e-crisi-climatica/>

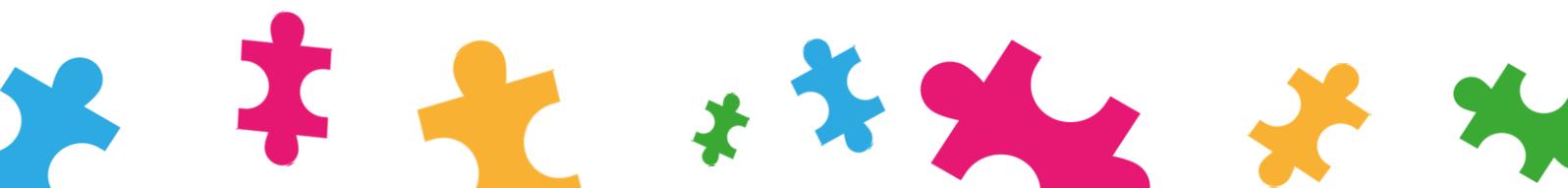
<http://www.italiaclima.org/approfondimenti-climatici/cosa-sta-succedendo-al-clima/>

Video Resources:

- <https://youtu.be/PqxMzKLYrZ4>
- <https://www.youtube.com/watch?v=7Tr8Do8i2A8&noredirect=1>
- <https://www.youtube.com/watch?v=5ECR3FfDy00>
- <https://www.youtube.com/watch?v=YE0TCZtX85s>
- https://www.youtube.com/watch?v=wn_-H_R4uJY
- <https://www.youtube.com/watch?v=ABMTg1R9cUI>

Step 2: The future depends on you

Now that you know enough about global warming, its main causes and consequences, you and your friends can develop a series of responsible actions that if implemented, they would help reduce global warming. It is important to be part of the solution rather than the problem.





Here are some ideas and tips:

https://www.riscaldamentoglobale.it/migliorare-futuro/consigli_33.html

<https://www.nationalgeographic.it/ambiente/2021/04/earth-day-2021-26-modi-per-ridurre-il-nostro-impatto-sul-pianeta>

<https://www.youtube.com/watch?v=uQm3XPtjrS4&t=111s>

Step 3: Presentation plan

Now that your content is ready, it's time to think about how to deliver it in an original way to engage your audience. Make a scratch of your presentation on paper first, afterwards choose suitable images and videos to support your ideas and get your message across to the class. To find out how to use effectively Pow Toon, here are some tutorials and examples made by your peers, which will help you discover what you can do with this tool:

<https://www.youtube.com/watch?v=XJrBryh85pc>

<https://www.youtube.com/watch?v=9iKSWQhRIGk>

<https://www.youtube.com/watch?v=ABMTg1R9cUI>

When you have created your presentation, check it out together with your team to see if everything works and captures your audience's attention. You may also consider including a short introduction to your work, and even a backstage section to make it more interesting.

<https://www.duarte.com/presentation-skills-resources/tips-for-kids-to-nail-presentations/>

Step 4: Challenge Day

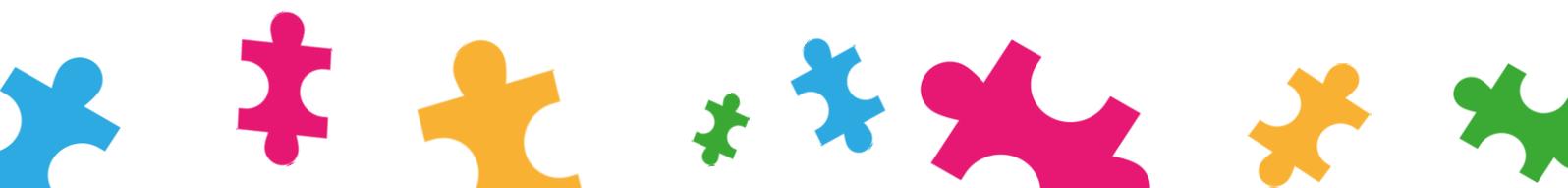
The day has come! It is time to show your video presentation made with your team. Here are some tips:

Presentation skills: <https://www.youtube.com/watch?v=8IbheB2-ixM>

It is time to find out which is the best video presentation that will participate in the national contest.

The compilation of the following form will help you choose the best work:

To be fully filled in	EXCELLENT 4	VERY GOOD 3	GOOD 2	SUFFICIENT 1	REPORT THE SUBTOTAL
GRAPHICAL ASPECT					





ORIGINALITY					
COMPLIANCE WITH THE CONDITIONS					
ACCURACY AND CLARITY OF PRESENTATION					
FEASIBILITY OF THE PROPOSAL					
TOTAL					

EVALUATION

Choose a score from 1 to 4 where 1 means never, 2 sometimes, 3 enough and 4 always.

1. Did I show interest in the activities I carried out?

2. Did I stick to my role and the assigned task?

3. Did I collaborate with the group?

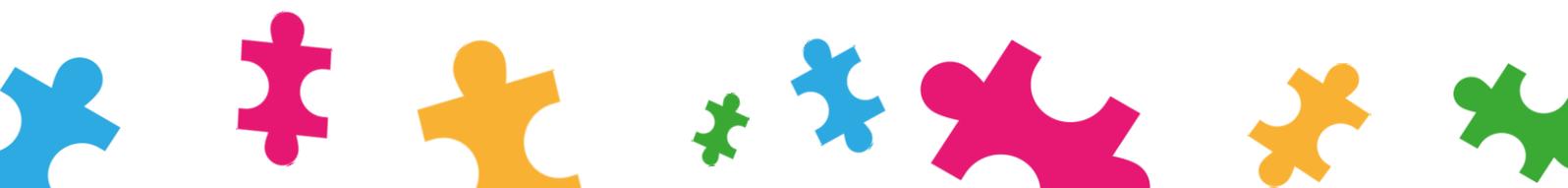
4. Did I meet the deadlines required to finish the job?

5. Did I encounter any difficulties?

• What you liked the most or what you liked the least? Provide a short answer.

WEBQUEST ASSESSMENT

Scale	To be improved	Appropriate	Advanced	Expert
Research on the web	The candidate has provided information but there are a few details only.	The candidate has identified 5-8 elements. Some important information is missing. There are no URLs listed in the work.	The candidate has identified and provided the essential elements with appropriate images.	The candidate has identified and provided all the essential elements with appropriate images and





				further information.
Report writing	The report does not include all the essential information	The report shows almost all the essential elements; however, the information is not presented in a clear and concise way.	The report shows all the essential elements; the information is presented in a clear and concise way.	The report shows both essential and further elements; the information is presented in a clear, concise and smooth way.
Work planning	The presentation has been delivered with poor or no enthusiasm. No particular detail has been included.	The presentation has been delivered with pretty much enthusiasm and some details have been included.	The presentation has been delivered with enthusiasm, an array of details and the work has been thoroughly planned.	The presentation has been delivered with much enthusiasm, a full array of details and the work has been thoroughly planned. The candidate has also significantly improved the presentation.

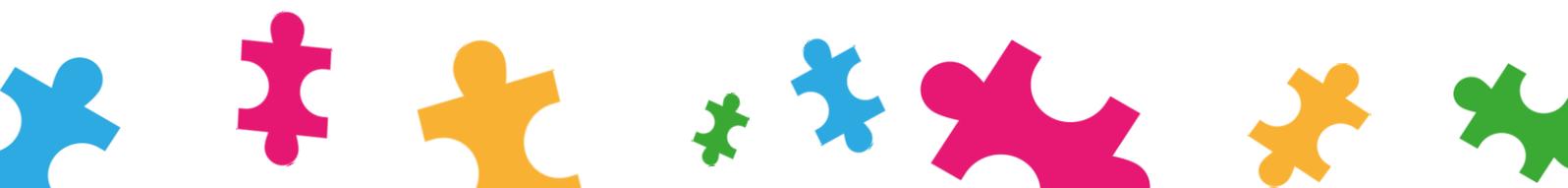
CONCLUSION

Congratulations! You and your team have successfully delivered your presentation and are now aware of such a serious issue as global warming. You know that you can do so much to contribute to this cause and reduce its consequences because you can shape the future!

By getting involved in this work with your classmates, you have helped and driven to act more responsibly, in order to avoid future disasters.

At this point, it is hoped that with your knowledge you can now convince other people and make them think about the importance of appropriate choices, in order to achieve more than has ever been done before.

THE FUTURE OF EARTH AND PEOPLE DEPENDS ON US ALL!





GRETA

Challenge-based Learning in Primary Schools for Climate Change Awareness



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