



For whom the bell tolls?

Reactions of eco-system to climate changes

Type of pedagogical project, activity, action, accompanying	Activity
Key words of relevant disciplines/ Pedagogical content	Climate change, habitats, living conditions, adaptation of organisms to the environment
Problematic	What are the consequences of climate change on living conditions and how organisms will react to it?
Thematic	Water, biodiversity, agriculture
Disciplines (sciences, geography)	<i>Science, Geography</i>
Pedagogical Objectives/New targeted skills	<p>The students will be able to:</p> <ul style="list-style-type: none"> - understand what climate change is - give an example of climate change - understand and explain basic concepts in the organization of living communities in nature - understand and explain the adaptations of organisms to living conditions in their habitat - explain the impact of living conditions on the survival and distribution of organisms - understand and describe the impacts of climate change on the plant and animal world - predict and describe the impacts of climate change on some organisms in their habitat
Public target(s) (age, requested skills...)	11-14 years old
Description (step by step)	This activity is related to previous lessons (Activity “Exploring the consequences of climate change on our environment”). Understanding the learning content depends on preconceived ideas that students already have.





	<p>Step 1) Students have a task: "Think about the consequences of the following event: the temperature has suddenly dropped, it was 20 degrees on the 28th of March and on the 2nd of April it was -3 degrees." Students work in groups, forming a chain of consequences. Later they present the result. The teacher writes down the consequences they found. Debate on the importance of different consequences. Consequences are discussed and divided into direct and indirect consequences of climate change.</p> <p>The discussion is directed towards the main question: why climate changes have serious consequences for the living world. The emphasis is put on key words: living conditions, adaptation of organisms to the environment, habitats.</p> <p>Step 2) Students analyse the results of the survey that was conducted during the previous classes (activity sheet "Exploring the consequences of climate change in our environment"). They establish the cause-and-effect relationships between different phenomena and facts, always trying to answer the question "why?".</p> <p>Finally, we choose the phenomenon that students have classified as the most dangerous for the living world and we agree on how to raise the public awareness on that topic.</p>
<p>Place (meeting room, outside space, ...)</p>	<p>Classroom</p>
<p>Individual and / or collective actions</p>	<p>Group work, discussion</p>
<p>Material needed</p>	<p>Results of the previously conducted survey</p>
<p>Duration of pedagogical project or activity</p>	<p>2 hours</p>
<p>Evaluation of the new acquired skills</p>	<p>Test about the key words, ability to set the causes-consequences chain</p>





<p>Eco-citizen adaptation, knowledge enhancement and links to other topics</p>	<p>Link to: Activity sheets: Exploring the consequences of climate change in our environment / The impacts of climate change in your region / When Mediterranean species are threatened by climate change / The impact of climate change on sardine growth / The impact of climate change on the squids migrations / Acting as an eco-citizen in local communities</p> <p>Croatian:</p> <ul style="list-style-type: none">• https://skepticalscience.com/translation.php?a=128&l=29• http://science.sciencemaq.org/content/352/6281/84 <p>Greek:</p> <ul style="list-style-type: none">• https://vimeo.com/119935291• https://ec.europa.eu/clima/change/causes_el <p>Italian:</p> <ul style="list-style-type: none">• https://www.minambiente.it/sites/default/files/archivio/biblioteca/La_vulnerabilitx_alla_desertificazione_in_Italia.pdf• https://www.minambiente.it/sites/default/files/archivio/biblioteca/RISORSE_FORESTALI_E_RISCHIO.pdf• https://www.wwf.it/oasi/?31300/Giornata-Mondiale-desertificazione• http://asvis.it/goal13/articoli/462-3280/cambiamenti-climatici-e-rischio-desertificazione-in-sicilia• https://www.internazionale.it/reportage/marcello-rossi/2017/09/11/cambiamento-climatico-fiume-po• https://www.legambiente.it/wp-content/uploads/ricerca_clima_2018.pdf• https://www.cmcc.it/article/agriculture-at-risk-the-potential-impacts-of-climate-change• https://www.lastampa.it/2016/10/05/italia/alta-langa-le-bollicine-piemontesi-vanno-in-quota-KJ31dHc8PAT0ucf9O5bqEJ/pagina.html• http://www.nimbus.it/download_pubblicazioni/ClimaMontagnePiemonte.pdf <p>French:</p> <ul style="list-style-type: none">• https://www.mtaterre.fr/FR
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<p>Observations</p>	<p>After analysing a survey conducted among students, we found out that they cited the drying of natural water sources as the most significant climate change, which they themselves encountered during last year's school activities (the students participated in the cleaning of a dried pond). This has convinced us that the knowledge acquired through action is the most enduring. Thus, the students easily concluded that the loss of natural resources would affect the living world in the environment (plants and animals). However, they had to be further encouraged to conclude on the consequences for humans, that is, the connection of the living world at all levels of the bio-community.</p>
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Pictures

Photo. (Organization that took the picture) Country

