



# The bee school

Helping the bees to survive climate changes

Type of pedagogical project, activity, action, accompanying	Project on raising awareness about the extinction of the bees
Key words of relevant disciplines/ Pedagogical content	Bee community, extinction of bees, living conditions, ecosystem, pollination, blooming calendar
Problematic	How can we help the bees to survive in climate change conditions?
Thematic	Biodiversity
Disciplines (sciences, geography)	Science, mother tongue, technical education
Pedagogical Objectives/New targeted skills	<p><b>The students will be able to:</b></p> <ul style="list-style-type: none"> <li>- Explain the role and importance of bees in the ecosystem</li> <li>- Predict consequences of the extinction of bees on natural cycle</li> <li>- Describe and understand the life of bees in the community (the role of each individual in the community, division of tasks...)</li> <li>- Identify the benefits of community life</li> <li>- Conclude by analogy on human community (common life, advantages and disadvantages)</li> <li>- Explain the influence of temperature differences on the evolution of the flowering calendar</li> <li>- Establish a connection between changing the flowering calendar and extermination of bees</li> <li>- Raise public awareness on the problems that the bee population faces with the new conditions linked to climate change</li> </ul>
Public target(s) (age, requested skills...)	12-14 years old
Description (step by step)	<p><b>Step 1) Introduction</b></p> <p>Conversation on characteristics of beekeeping in the homeland and the risks that beekeepers face. Linking the information collected in the survey and processed in previous lessons (Activity sheet: <i>The impact of climate change on the extinction of bees</i>).</p> <p>The teacher explains how the bee community works.</p>





The teacher announces a visit to the local beekeeper, and questions are prepared for this visit.

### **Step 2) Visit to the apiary**

Students visit the local apiary. The beekeeper explains the life in the hive, when the bees come out of the hive, why, how they behave, what is threatening them (increased temperatures cause early exit from the bee hive; the appearance of the first flowers, insufficient to feed the entire bee community, causes more problems than benefits. Frost episodes that follow are dangerous to the bee community) ... How do people help bees to survive. Students ask about changes in bee behaviour in recent years. Has the amount of honey changed, the bee community increased or decreased? How does it affect people's lives?

The teacher encourages discussion about what can lead to the bee being extinct and how it affects people.

What can people do to reduce the harmful consequences that climate change has on the bees?

Bees are simply part of the chain in the ecosystem. It is necessary to keep the whole system in order for it to be working. Do people know how important the bees are for our ecosystem? What can students do to raise public awareness? We decide to make a public campaign.

### **Step 3) Creating a public campaign**

Role-play in the classroom: the students get into the role of the bees whose community is being threatened. They try to produce texts and slogans that encourage empathy with bees and bee communities, but also warn that everything is connected in nature, and that everything that happens has consequences for people.

### **Step 4) Making banners and going out in public**

On Technical education lessons students make banners. Together with the Science and mother tongue teachers, students go out on the town square with prepared banners. They explain to passers-by the purpose of their campaign and note the reactions.





	<p><b>Step 5) Analysis of project effects</b></p> <p>The students and the teacher analyse the implementation and the effects of their project. They determine what they could do better, and what really had an impact on citizens' awareness.</p> <p>The general conclusion is that residents often do not see the connection of climate change with everything that is happening around us, and which could lead to many unwanted consequences in the future.</p>
<b>Place (meeting room, outside space, ...)</b>	Classroom, apiary, town square
<b>Individual and / or collective actions</b>	Collective action
<b>Material needed</b>	<i>Tools for technical education, wooden boards, paints, papers for posters</i>
<b>Duration of pedagogical project or activity</b>	<b>8 hours</b>
<b>Evaluation of the new acquired skills</b>	Evaluation and self-evaluation of students after the project
<b>Eco-citizen adaptation, knowledge enhancement and links to other topics</b>	<p><b>Link to:</b>  <b>Name of the activity/Project/knowledge sheets</b></p> <p>-----Organise the links in the different language in this setting-----</p> <p><b>Croatian:</b></p> <ul style="list-style-type: none"> <li>• <a href="https://www.bolinfo.hr/kultura-skolstvo/os-bol/2019/posjet-pcelinjaku-u-murvici/?fbclid=IwAR2wVo7A9vnmwim97ZFWL6UPBBTItDppKyVWFg6wtOIDdOfomNiXoL4h_hY">https://www.bolinfo.hr/kultura-skolstvo/os-bol/2019/posjet-pcelinjaku-u-murvici/?fbclid=IwAR2wVo7A9vnmwim97ZFWL6UPBBTItDppKyVWFg6wtOIDdOfomNiXoL4h_hY</a></li> <li>• <a href="https://www.bib.irb.hr/853492">https://www.bib.irb.hr/853492</a></li> </ul> <p><b>Greek:</b></p> <ul style="list-style-type: none"> <li>• <a href="https://melissokomianet.gr/klimatiki-allagi-epeili-gia-tis-melisses">https://melissokomianet.gr/klimatiki-allagi-epeili-gia-tis-melisses</a></li> </ul> <p><b>French:</b></p> <ul style="list-style-type: none"> <li>• <a href="https://www.youtube.com/watch?v=rLtmp6jRaxk">https://www.youtube.com/watch?v=rLtmp6jRaxk</a></li> <li>• <a href="http://www.eauseccours.com/tag/disparition%20des%20abeilles/">http://www.eauseccours.com/tag/disparition%20des%20abeilles/</a></li> </ul>





<b>Observations</b>	-
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Pictures

Photo. (Osnovna škola Bol, Croatia)



