

Methodology for teachers using the exhibition with their class

LESSON'S AIM:	The student can explain what climate change is and can name 2 causes, 2 consequences, 2 things he can do to prevent the spread. He also knows at least one solution on how to get actively involved in the fight against climate change.
EXHIBITION'S AIM:	Visitors to the exhibition have the opportunity to learn through comics and accompanying text (a) what is climate change, (b) what are some causes and consequences of this change (in different regions of the world) and what each of us can do to mitigate climate change
EXPECTED TIME:	45 to 60 minutes
FOCUS GROUP:	secondary school students, number of students 18 - 27
WHAT TO PREPARE:	Whiteboard or flipchart, printed worksheets (with team numbers 1-9), hanging exhibition in the school premises, flipcharts for reflections (activity trees and roots), post-its
ANNEXES:	1. Worksheet for students, 2. Comics Overview (causes, effects, solutions), 3. Graphical layout of a tree (Reflection)

Introduction (5 min):

- We introduce what will happen in next lesson
- We divide the students into nine groups, each group consists of two to three students.

Evocation (10 - 20 min, depending on whether we play the additional video)

- We ask students "What comes to my mind when we say climate change?", We write the word CLIMATE CHANGE on a blackboard or flipchart. The students' task is to think about the question in the team and answer together (come up with at least two ideas). Then we encourage students to share their ideas. Ideas can always be summarized and written on the board in three columns (from the left) in the order (1) causes, (2) consequences, and (3) solutions
- Finally, we ask why the ideas are written in three categories. Alternatively, suggest categories. After deciphering, we will add them as headings to the individual columns. It is worth mentioning that some ideas are not always clear in which column to include
 - o (for example, drought can be the cause of low yields, but it is also the result of water shortages and water shortages can be the result of climate change and this can be due to the greenhouse effect, hence the burning of fossil fuels)
- Methodological note: In the evocation phase of the program, we try to create space for students to stimulate their own suggestions. The role of the teacher is thus lagging behind and acts more like a facilitator. If the conditions allow, we can also try for dialogue and complementarity between students (we support students' communication with each other).

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Realization of Meaning – Exhibition (15 mins):

- We hand in one worksheet to each of the groups (**Annex 1: Worksheet Climate Change Exhibition**)
- Students work in groups according to instructions on the worksheet. It may be useful to emphasize that the group need to agree on an answer collectively before filling it in in the worksheet.
- After filling in the page #1 of the worksheet each group turn to the page #2. If there are slower teams it is good to help them with the first tasks so that the teams will finish the task in similar time frame.
- At this stage, the teacher should quickly check whether the comic book numbers match the checked CAUSE, EFFECTS, or SOLUTION according to the Annex 2 (some comics can be interpreted differently, so when correcting we refer to evocation activity, when we mentioned this discrepancy). At the end of this phase, it is important that each team has a checked box according to the attached table "Overview of comics". In reflexes, students join groups according to these categories.

Reflection – Tree and roots (15 min)

- The class is divided into three groups of 6-9 students, based on three categories according to completed worksheets (i.e., together will be all those who in the previous activity discussed commissions dealing with causes, for example). We will verify the number of students in groups.
- Each group will receive a flipchart and a marker, the teams will introduce the themes of their comics to each other and write them in large letters on a common flipchart - in groups it is possible to create themes in the form of a picture.
- If we have enough time left, we can ask representatives from each group to present their flipcharts
- Finally, we connect parts of the tree and create a whole tree, which is connected to each other CAUSES - EFFECTS - SOLUTIONS according to the Annex 3 (graphical layout of the tree). We can glue the tree together and ask the class with the final question of whether and, if so, how the individual topics (or categories) could be connected.
- In the end, everyone will receive a post-it. The instructions will follow to write down some solution the student can think of that would help tackle the climate change. We will then stick the post-it together on the final panel of the exhibition as inspiration for other visitors of the exhibition.
- Methodological note: The final part of the reflection is necessary to close the topic. Therefore, we recommend always setting aside enough time for reflection, even at the expense of some of the previous parts. Furthermore, due to the understanding of this block as an "introduction to the issue of climate change", it will be followed up in the next hours in terms of content and topics.

Annex 1: Worksheet to be handed in to students (find a print version in a separate annex)

Comics number:

The comic's name:

The comic touches on topics, it is about...

... and draws attention mainly to (choose from the options):

CAUSE – What is the cause of the problem? How does the problem arise?

EFFECTS – What happens as a result? What is the result?

SOLUTION – What can we or others do to improve the situation?

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Let's take a look at the facts about climate change together ...

Everyone heard about climate change, that's for sure. There are many different opinions on what is causing it and how to solve it. We're going to stick to the facts here and summarise what it's all about .

According to the Czech Hydrometeorological Institute, climate change has always happened on Earth. Warm and cold episodes took turns every 100,000 years or so. What's so different about the situation today then? It's the speed of the changes, especially of the planet warming up. Scientists agree this is at least partly caused by human activities, such as releasing greenhouse gases into the atmosphere to name one of the most significant ones. Since the beginning of the industrial revolution 150 years ago, we've increased the atmospheric concentration of carbon from 280 ppm (parts per million) to more than 410 ppm in 2021 by burning fossil fuels. And that's not all; there are other gases being concentrated in the atmosphere, like methane . Scientists predict that by the end of the 21st century, Earth will get 1.1 – 6.4 °C warmer. Apart from the huge economic costs, every change like this brings many problems that threaten all life on Earth.

... and think about these questions in your team.

1. How often did warm and iceages alternate naturally?
2. What makes the planet warm so fast?
3. What are the problems associated with climate change?

1. BONUS: How do we know that warm and ice ages alternate?
2. BONUS: What does ppm mean and why is it important?

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Annex 2 – for teacher: Overview of comics (assignment to topics is for orientation only, it is possible to perceive them differently)

Comics	CAUSES	EFFECTS	SOLUTIONS
1	Population growth (increasing food consumption)		
2	Deforestation		
3	Wasting of resources		
4		Drought, low water retention capacity in the landscape	
5		Melting glaciers	
6		Plants and animal extinction	
7			Recycling, decreased consumption
8			Cooling the landscape by planting forests
9			Joint efforts, international agreements

Annex 3 – for teacher: graphical layout of the tree (Reflection)

