STAGE 1: MAIN CONCEPTS

GOALS

- ✓ Become aware of the reality of forced mobility due to climate change. Size the global problem by presenting objective data.
- ✓ Show that the consequences of climate change do not affect all countries and territories and all people in the same way.
- ✓ Become aware of the need for change.
- ✓ Arouse curiosity and desire to know more.
- ✓ Putting people at the centre: favouring an empathic look towards those who have to migrate due to climate change.

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Worksheet 1: Environmental change, climate emergency and migrations

GOALS

- ✓ That students understand and are able to explain the relationships between environmental, climate change and human mobility.
- ✓ That students become familiar with environmental scientific concepts in order to have the theoretical basis necessary to advance in the course.
- ✓ That students understand and that current environmental change is a systemic issue.
- ✓ That students understand that the environmental change we are currently experimenting is consequence of human action.
- ✓ That students understand that global warming is an emergency that need immediate action to mitigate its consequences.

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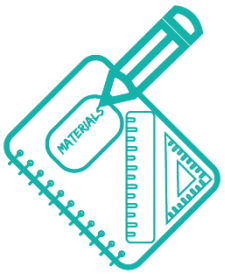
WARM UP ACTIVITY

WARM UP ACTIVITY

PROPOSED TIME

10 minutes



PROPOSED MATERIALS

- ✓ Paper
- ✓ Colour markers

STEPS

1. Ask students to share ideas on "Reasons People Migrate." Teachers should then write these ideas on the board or other support visible to the class.

NOTE TO TEACHERS

Encourage students to be specific. For instance, not simply 'economic reasons but lack of job, studies, lack of social services etc.

2. When you have collected enough reasons, ask students to group the findings in categories (for instance social/ political/ climate/ economic/ demographic...). They should be encouraged to come up with such categories themselves with help from teachers.

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3 Once reasons are grouped and categorized, as a class, think about the links/overlaps between the different categories and reasons, and analyse whether they brought up any environment-related reasons and what they think the links between the environment and migration are.

4 After a small discussion, and as concluding words, show students this video: [Is there a link between climate change and migration? - YouTube]

Answers from the video:

- *Climate change is a factor that is growing and becoming more important in people's decision to migrate.*
- *Climate and migration are difficult to link because migration is multicausal. There are many reasons why people might be on the move (social, economic, political...) and climate change may affect all these factors and act as threat multiplier.*

In some regions in the world, half of the families depend on subsistence agriculture. So even with a slight change in climate, the livelihood of people may be compromised. So many must find alternative livelihoods in cities for instance. And when these people arrive to Europe, they are called "economic migrants". It is a Western view to distinguish between economic and environmental reasons to migrate. For the people who depend on agriculture for their livelihood, economic and environmental reasons to migrate may be the same.

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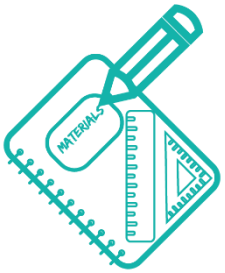
MAIN ACTIVITY: JIGSAW

MAIN ACTIVITY

PROPOSED TIME

30 minutes



PROPOSED MATERIALS

- ✓ **Jigsaw reading texts (annex I)**
- ✓ **Paper and pen for each student**
- ✓ **Poster paper**
- ✓ **Coloured markers**

There are 5 jigsaw pieces (see annex I):

1. Some metaphors.
2. Carbon budget and tipping points.
3. Climatic migrations
4. Human (in)action: Anthropocene and Psychic numbing.
5. Stories of climate displacement

STEPS

1

Expert group (15 minutes)
The class will be divided in 5 groups (made of 4-6 students each), one for each “Jigsaw reading”. This will be called the

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"expert group". Each group should be diverse: teachers need to mix students who reflect a range of characteristics and abilities. Each group will get one of the texts listed above (each student should have access to his/her own reading material).

There will be 5 minutes of personal reading and 10 minutes to get together and make sure every member of the group has understood the text and prepare a scheme to explain to others the content of their reading (each student can make a scheme of his/her own, but the group can share some ideas on how to present it).

2

Mixed group (15 minutes)
Students will then mix the groups and get into groups of 5, with one member for each expert group. Each member will have 3 minutes to explain the content of what they have read, and the group will have 2 minutes to clarify ideas if needed to.

Each member of the group will take notes on the main concepts and ideas shared by each specialist member/duo.

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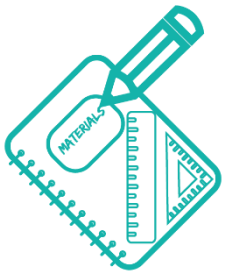
CLOSURE: JIGSAW

CLOSURE ACTIVITY

PROPOSED TIME

10 minutes



PROPOSED MATERIALS

- ✓ Poster paper
- ✓ Coloured markers
- ✓ Other basic stationery

STEPS

1. Still gathered in their mixed groups, the members of each "expert group" will share their notes and ideas on the links between the different readings and the concepts expressed by each specialist group that they were able to hear in step 2 "mixed groups". Members are responsible for learning all content from one another.

2. They will then make a conceptual poster on the links between all the readings. The way they portray concepts and relations is their decision (it can be words, figures, drawings...) but it is important to note that, if asked so, any member of each group should be able to explain all contents in the poster.

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***IMPORTANT**: this jigsaw activity has real jigsaw within: all content may be related to one of the concepts of other reading pieces. Teachers should be aware on this and help students see it in case they do not make the link by themselves.*

Here are some possible answers for the Jigsaw readings relations:

- Velodrome/Tipping points: change reactions in a system, in our case Earth.
- Tipping point /From Holocene to Anthropocene: future does not necessarily match past, in the sense that dramatic changes are expected to occur in our environment if we are not able to stop global warming.
- Chasing cheese/Carbon budget: consumerism as a destructive way of life (both for environment and humans).
- Between rock and hard place/climate emergency: the need of urgent action for survival.
- Physic numbing/ climatic migration: the way we approach numbers as some explanation for our inaction in the face of human suffering.
- Stories of climate displacement/ climatic migrations/ tipping point: although environmental displacement has occurred for a long time, as we pass the tipping point of environmental change, these displacements become worse, more widespread, and disproportionately hurt people in the 'Global South'. It also hurts some groups more– particularly women and children, who are more likely to be displaced and more at risk during displacement

Students may find other interesting connections. It is important not to limit them, but to assess if they are appropriate.

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Extra tips for Teachers:
Teachers can decide to assign roles such as:
For the expert meeting members:
-Speaker: explains the content of the assigned material as he/she understands it.
-Secretary: he/she makes sure that the discussion is completed in the allotted time.
-Checker: asks for clarifications and makes critical comments.

For the mixed group: same as above, but rotating roles as speakers change

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Worksheet 2: Equity issues in a global and systemic problem

GOALS

That students understand and are able to explain and elaborate on:

- ✓ Climatic emergency as a scientific consensus.
- ✓ Some basic concepts related to environmental and climate change: global warming, greenhouse gases, carbon budget, ecological footprint, climate debt.
- ✓ Some environmental factors which drive displacement: “slow development” disasters, hydro meteorological disasters, loss of territory due to rising sea level, conflicts over access to natural resources.
- ✓ The dimension of the movement of populations due to environmental and climate change
- ✓ Current environmental change and climate emergency as a systemic problem originated by human intervention.
- ✓ Inequality: the fact that not all countries and populations have contributed and contribute to environmental and climate change equivalently.
- ✓ The fact that the consequences of environmental and climate change do not affect all countries and territories and all people in the same way.

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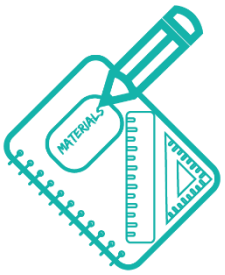
WARM UP ACTIVITY

WARM UP ACTIVITY

PROPOSED TIME

5 minutes



PROPOSED MATERIALS

- ✓ **Paper or any writting support**

STEPS

1. Before seeing any data, ask students to fill in a table of 10 countries that they think are the worst emitters, and 10 very low emitting countries. Also ask them to write down a list with the 5 countries with the highest internally displaced persons due to disasters (in 2021). We will check results during the session.

***ANSWERS**: The top 5 countries with the highest internally displaced persons due to disasters were Afghanistan (1.4 million), China (9430,000), Philippines (700,000), Ethiopia (579,000), and South Sudan (527,000). For more information IDMC | GRID 2022 | 2022 Global Report on Internal Displacement (internal-displacement.org).*

NOTE TO TEACHERS

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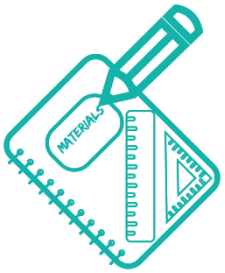
MAIN ACTIVITY

MAIN ACTIVITY

PROPOSED TIME

35 minutes



PROPOSED MATERIALS

- ✓ **Minimum 6 devices with internet connection**

STEPS

This activity will consist of group work with maps, tables, and environmental impact calculators.

1. The class will be divided in 5 groups. Each group should be diverse: teachers need to mix students who reflect a range of characteristics and abilities. Each group will have access to a device with internet, in order to access information that is online

2. Each group will be given the following internet sources and questions (see questions below), and should examine the sources with the questions in mind.

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- **GROUP 1: Global Climate Change facts** (questions 1, 2, 3) (English, Spanish): on this page you can find a series of 'vital signs' for the planet, and by clicking on them you can find information explaining and showing key indicators which measure the climate crisis and health of our environment.

- **GROUP 2: Per capita consumption-based CO_2 emissions** VS **Annual CO_2 emissions** (English) and **Climate debt** (English) (questions 4, 5, 6, 7)

Per capita consumption-based CO_2 emissions map: emissions based on consumption means that if a European buys a product that was made in China, then the emissions that occur because of their consumption are counted as European, not Chinese. This way of calculating emissions accounts for the major industrial powers 'outsourcing' of the external costs of their lifestyle and is, therefore, fair and representative. This is different to "territorial" CO_2 emissions. This calculation of emissions measures the volume of CO2 that are emitted from within each national boundary of the globe.

NOTE TO TEACHERS

Climate debt defined as the overconsumption of the available capacity of the Earth's atmosphere and climate system to absorb greenhouse gases by the developed countries has run up a climate debt to developing countries and mother Earth. For every year that greenhouse gas emissions increase, the burden of reducing them gets heavier on the future generations. The climate debt idea has two big implications (among others). One is that developing countries can't follow the path of

NOTE TO TEACHERS

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industrialization that their rich predecessors have without making the climate crisis even worse. The other is that wealthy nations, in addition to reducing their own emissions, have a moral responsibility to finance what it will take for poorer countries to adapt to climate change and to industrialize in ways that won't deepen the problem

NOTE TO TEACHERS

- **GROUP 3: Emission cuts that are required to achieve to remain under a 1.5°C and 2°C temperature rise** (English) (question 8)
    - *CutXpercent is an annually updated set of figures that shows what is required to meet the objective of the Paris Agreement. It provides the required annual emissions reductions for the 1.5°C target and the 2°C target, for every nation in the world.*
    - *On this page, you can flick through the CutXpercent figures for the different countries of the world.*

- **Group 4: Ecological footprint**, (English, French, Spanish, Portuguese, Italian, German) (Question 9)
    - *This tool measures how much nature we have compared to how much nature we use. The Ecological Footprint measures the amount of biologically productive land and sea area required to provide for the demand of population, including the areas for growing the food, fiber, and timber they consume, the space they occupy with their houses and roads, the area needed to sequesters the carbon dioxide from burning fossil fuel. Carbon emissions are the largest component of the ecological footprint but the footprint also include the consumption of food, use of lands …. The calculator tells you how many Earths would be required if everyone on the planet lived like you, and then suggests ways to reduce your Ecological Footprint (i.e. the quantity of nature it takes to support people or an economy).*

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- *Example: China has the largest total ecological footprint (24% of total ecological footprint in the world), however, China's footprint per person is only 3,6 global hectares (gha). By comparison, the ecological footprint per person in the United States is 8,6 gha. Meanwhile, Brazil has an ecological reserve thanks to its immense forests. Brazil has a biocapacity per person of 8,9 gha and a footprint per person of 3 gha.*

- **Group 5:** Vulnerability and people most at risk of experiencing adverse climate change effects in the world **The carbon map** (English, French, German, Arabic, Spanish, Portuguese) and for **woman** (English), (question 10)

- **Group 6:** **Climate migrants** (English) **Global Report on Internal Displacement** (English) (questions 11, 12); **Climate change and economic inequity**

3 10 minutes are given for each group to review the map and answer the questions. Each group will have a computer and/or mobiles to review the documents.

4 All class gets together to review the sources and questions. The teacher will project the maps/infographics/figures while discussion is held (25 minutes):

1. Is climate emergency a scientific consensus? Why?
2. What are the main causes of climate change?
3. What are the main effects of Climate Change?
4. What are the countries that currently emit the most CO2? And what are the differences when we look at per capita emissions versus territorial emissions?

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5. What are the countries that have produced the most CO2 throughout history?
6. Are they the same countries? Why?
7. What is climate debt? Which countries have a greater accumulated "debt"?
8. How much would our country have to cut our CO2 emissions to remain under a 1.5°C and 2°C temperature rise?
9. What is the ecological footprint? Can we measure it? Is the ecological footprint of all people equivalent? Why?
10. Does the climate change affect everyone in the same way? Who does it affect more? Why?
11. What are the countries with the highest internally displaced persons due to disasters?
12. Is there a link between climate change and migration? How and why are some people more vulnerable to climate change?

5 Questions for all (these questions were not given to groups previously):

13. Are the countries that have contributed the most to global warming the ones that suffer the most from the consequences of climate change (including displacement)? And among people... is there any relationship between those who contribute the most to climate change and those who suffer the most from its consequences?
14. What would you give up if it meant that emissions would be reduced 7%? Cars or cows'? What choices are you ready to make? Choices that make a real difference in CO2 reduction?

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NOTE TO TEACHERS

Most graphics use data sets that are based on territory and not consumption emissions and per capita data, so Europe always ends up looking much better than it is, and China looks much worse. This is because Western countries consume a large amount of – for example – goods, which are produced elsewhere, and which therefore are often shown as falling under the emissions of the countries where they are produced. For example: Most media coverage of climate change points to China as the world's worst emitter of CO2. The figures require some adjustment to get an exact picture of who is causing the emissions. However, the map of emissions looks quite different if the emissions are calculated as 'consumption emissions'. This means that if a European buys a product that was made in China, then the emissions that occur because of their consumption are counted as European, not Chinese. This way of calculating emissions accounts for the major industrial powers 'outsourcing' of the external costs of their lifestyle and is, therefore, fair and representative. If emissions are only calculated 'territorially', then China has 30% of the volume of CO2 emissions and Europe has 10%. If emissions are calculated based on consumption, then China only bears 24% responsibility for the CO2 , and the EU (28) bears 12% of the responsibility.

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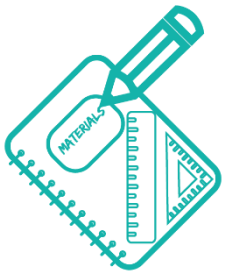
CLOSURE

CLOSURE ACTIVITY

PROPOSED TIME

10 minutes



PROPOSED MATERIALS

- ✓ Poster paper
- ✓ Coloured markers
- ✓ Other basic stationery

STEPS

1. After debate, each group makes a poster summarizing the meaning of the concepts they have been given, and the main figures of the country they are in.

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