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EduClima
Educação para
Justiça Climática

NOSS Education for Climate Justice

Volume 2

The Climate Detective:

Book for Educators



Escola de Artes, Ciências e Humanidades



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Book for Educators

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Presentation:

This workbook is part of The **Climate Detective Educational Kit**, which is a result of the "**Participatory Research Project in Action: Education for Climate Justice in the Ribeira Valley**" developed by NOSS EACH USP in collaboration with the international initiative Climate-U, implemented in Brazil in partnership with INCLINE USP.

The main goal is to support schools in becoming a strategic epicentre in promoting climate justice, offering support, inspiring teachers to disseminate knowledge for climate action, and ultimately empowering students to become critical agents for change in their communities.

The Climate Detective's methodological strategy is based on Paulo Freire's dialogic education, meaningful learning, and Citizen Science. It includes participatory activities and individual reflection.

We aim to inspire the implementation of activities that value traditional knowledge, explore different languages, promote problem-solving, contribute to critical reflection, and foster student protagonism.

The exercises use the territory as a reference and starting point for developing an educational approach to reduce contextual vulnerabilities, co-create knowledge, and empower students to play a leading role in climate justice.

The Climate Detective was implemented in two rural elementary and high schools in the municipalities of Eldorado and Iporanga in the Ribeira Valley, southwest of São Paulo. In both cases, multiple contextual vulnerabilities and territorial disparities were identified.

The results were positive! We observed the engagement of students and teachers, students' interest in extracurricular activities, mapping of neighbourhood problems and vulnerabilities, and students' protagonism in promoting knowledge for climate action in local political arenas.

São Paulo, Brazil, 2024 April.

Sylmara Gonçalves Dias
Ana Beatriz Nestlehner Cardoso de Almeida

"The action of the CLIMATE DETECTIVE in **the Climate (in)justice Project** sparks youth involvement, as students engage in learning through scientific research, environmental observation, and shared experiences, promoting social interaction, interdisciplinary knowledge, and citizenship."

Menevaldo Pinto Cunha

Teacher at Escola Estadual
de Ensino Integral PEI
Professora Maria das Dores
Vianna
(Itapeúna, Eldorado, Ribeira Valley
Brazil)
December 2023

Summary

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Represent (or present) you, "The Climate Detective"!

For educators: Who are the climate detectives? The first step is to request that your students introduce themselves by inviting them to explore various form of expression. Invite them to draw, make a self-portrait, write a poem, create a collage, represent themselves by exploring freedom and creativity, or fill in the basic information for their identification.

Name:

School:

Series:

Neighbourhood:

Address:

Welcome to the **Climate Detective workbook!**

Now you can unravel the mysteries of the Climate in your community!

Understanding territorial dynamics is the first step to developing innovative solutions that respect and value our history and culture!

All knowledge is important, and we are all able to contribute to a better world.

Don't be afraid! There's no right or wrong here!

This exercise seeks reflection, critical thinking, observation, and creativity!

The main goal of this workbook is to reflect and experiment. Don't worry about the calligraphy, drawing, or spelling perfection.

We hope that you enjoy this journal. So, we can develop science together, think about sustainability, and act for the Climate!



TEAM NOSS EDU CLIMA

Unto the Prof. Dr. Sylmara Gonçalves Dias, Prof. Dr. Pedro Torres, Ana Beatriz Nestlehner, Amanda Cseh, Isabela Cavaco, Aline Gomes, Julia Valle.

This workbook is part of the project "Participatory Research in Action: Education for Climate Justice in the Ribeira Valley," developed by the Research Centre for Organisations, Society and Sustainability of the School of Arts, Sciences and Humanities of the University of São Paulo (NOSS EACH USP), under the institutional coordination of the Centre for Research Support in Climate Change (INCLINE USP), Climate-U of the University College of London (UCL), funded by UKRI - UK Research and Innovation.



know more here.

For educators: It's always a good idea to obtain parental consent if you plan to promote the activity on platforms beyond the school community.

However, a form may not always be required.

You can also customize our example of a Free and Informed Consent Form.

Ask your parents or guardians to authorise your participation by responding to the following term:

Free and Informed Consent Form

I _____ responsible for _____, authorise his/her participation and the use of his/her image in the Project "Participatory Research in Action: Education for climatic justice", developed by the Research Center in Organizations, Society and Sustainability (NOSS) of the School of Arts Sciences and Humanities of the University of São Paulo (EACH-USP).

I am aware that the goal of the project is to deepen the understanding of the cultural, socioeconomic and environmental dynamics of the school community of

Located at _____

Participation is voluntary and can be withdrawn at any time and without prejudice.

Location _____, (date) _____ 202_

signature

Team Contact NOSS EDU CLIMA: nosseduclima@gmail.com

For educators: Socioeconomic data are essential for understanding different realities and possible vulnerability factors.

These data can be used for comparisons in equations, mathematical and statistical calculations, supporting comparative analysis among students, between schools, or school communities.

Can we find out more about you?

1. Age:

2. What is your race, tribe, or ethnicity?

3. How many brothers do you have?

4. Do you have access to a mobile phone? () yes () no

5. Do you have access to a mobile network? () Yes () no

6. Do you have electricity? () yes () no

If so, which system? () solar () traditional power supply

7. Do you work? () yes () no

If so, what do you do?

8. How do you go to school?

() walking () school's transportation () car

() motorcycle () bicycle

9. Who are you going to school with?

() alone () with siblings () with my parents

() with friends

10. How long does it take you to get to school?

11. What do you like most about studying?

12. What do you like most about doing in your spare time?

13. What is your family's main economic activity?

For educators: Collective Activity for Introducing the Theme "Understanding our Environment".

In this stage, we commence with a participatory activity involving all students to enhance their perception of their environment. They can develop drawings of the places they reside using various techniques.

Example of NOSS EDU CLIMA:

O **NOSS EDU CLIMA** has developed an interesting technique to exercise the perception of natural phenomena and their consequences, starting from the collective discussion about how students perceive their environment, the frequency and consequences of the most recurrent extreme natural events, and aspects of territorial injustices.

This exercise not only aids in broadening children's spatial awareness but also encourages interaction with peers and fosters a reflection on territorial inequalities.

Prepare a caption in advance about natural events and their consequences. Define landmarks for orienting your students (rivers, hills, sea), and locate the school.

1. Ask the students to draw their houses.
2. Ask them to identify where they live.
3. Choose which natural phenomenon they most notice in their houses.
4. Then, the problem related to this phenomenon will be chosen.
5. Ask them to walk around other places and assess the differences between the territories.
6. Facilitate a discussion about the territorial differences that can be noticed.

A giant mapping exercise was conducted at the State School in Itapeúna, located in the rural Eldorado municipality in the Ribeira Valley. This collective activity stems from reflecting on the environmental conditions of the students' households.



Watch the movie at the following link: <https://youtu.be/rQLMqMTxLNq>

Source 1: NOSS EDU CLIMA 2022

Brazil's National Educational Curricular (EF05MA14)

Use and understand different representations for locating objects in a plane, such as maps, cells in spreadsheets, and geographic coordinates, to develop the first notions of Cartesian coordinates.

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF01GE05)

Compare the impacts of urban and rural economic activities on the Observe and describe natural rhythms (day and night, variation of temperatures and humidity, etc.) at different spatial and temporal scales, comparing their reality with others)

Understanding Our Environment

Draw your home and highlight the most frequent natural events and the problems they usually cause.

For educators: For the teacher: Ask students to reflect individually by drawing their house and identifying the most frequent phenomena and recurring problems.

Encourage discussion among students about the differences in their realities. Introduce questions related to climate injustices.

Tip: INCLINE-USP is a multidisciplinary laboratory at the University of São Paulo that plays an important role in promoting knowledge related to climate change.

Additionally, it provides support material for pedagogical activities. Get to know the book "***New Themes in Climate Emergency for Elementary and High School Education***," released in late 2021, whose content includes various topics addressing climate justice.

Access the publication here:

<http://www.livrosabertos.sibi.usp.br/portaldelivrosUSP/catalog/book/711>



Events:

- () Storm () Overheating () Hail () Overcooling
- () Hail () Thunder and Lightning () Fires () Floods
- () Drought of rivers

Problems:

- () Lack of electricity () Lack of water supply
- () Road network disruption () No internet connectivity
- () Landfall () Flooding inside the house
- () Losing plantations () Losing livestock

Not all types of rains, winds, or floods are harmful. Rains are fundamental for agriculture; some floods help nourish the soil, while a cool breeze contributes to fresh air when it is too hot. In addition, these natural phenomena, such as rain and winds, can also improve playing conditions.

Which natural phenomena do you like most (rain, winds, or river floods)? What do you like to do when any of these events happen?

What kind of floods do you know? Which one do you like best? Which one are you most afraid of?

For Educator: Introduce a discussion about the importance of natural events for environmental balance, then propose a reflection on how students emotionally perceive these phenomena, followed by promoting a reflection on the positive aspects of weather events.

The central phenomena discussed do not necessarily have to be a flood; they can be more suitable for your reality.

Foster a discussion on how weather events are part of our daily lives and how we feel the variations in their frequency and intensity.

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF01GE10)

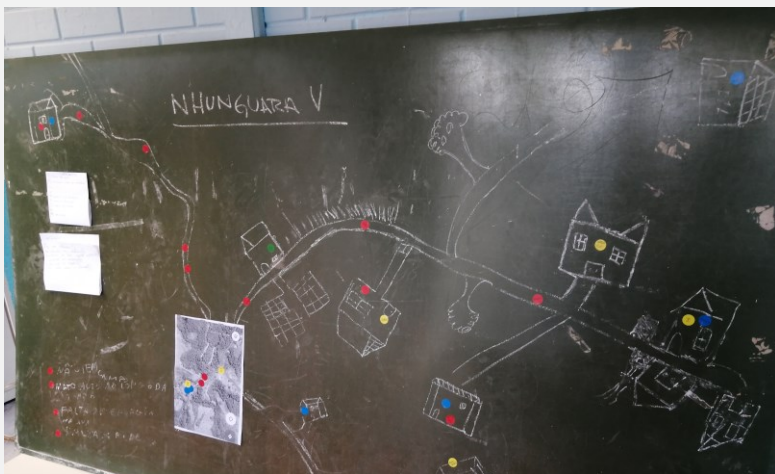
Describe characteristics of your living places related to the rhythms of nature (rain, wind, heat, etc.).

For educators: Introduction of a Participatory Activity for the "Reflecting on the environment where I live (home, neighbourhood, and surroundings)" session. This activity aims to promote the recognition of the impacts of climate change as a community.

NOSS EDU CLIMA has developed an interesting collective activity through the collective mapping of students' neighbourhoods and group discussions on the issues related to the incidences of weather events.

1. Ask students to organize themselves near their residences and draw their neighbourhoods together.
2. Each group should engage in discussions and answer key questions about how weather events (heavy rain, strong winds, drought) impact the overall conditions of the neighbourhood (roads, bridges, transportation, communication, etc.).
3. Locate the problems on the collective drawing using drawings, colours, or stickers if possible.
4. Display the drawings.
5. Next, students should explore the drawings of other neighbourhoods, noting the major similarities and differences.
6. Divide the students into small groups randomly and facilitate focused discussions to reflect on the observed convergences and differences.
7. For the discussion, request that students organize themselves, elect representatives to facilitate it, ensure time-keeping, and present the primary outcomes to all.

Activity with students to discuss and reflect on environmental vulnerability conditions in the neighbourhood and community arrangements



Source 2: NOSS EDU CLIMA 2022, 2023.

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EM13CNT310)

Research and analyse the effects of infrastructure programs and other essential services (sanitation, electricity, transportation, telecommunications, vaccination coverage, primary healthcare services, and food production, among others) and identify local and regional needs regarding these services to assess and promote actions that contribute to improving the quality of life and health conditions of the population.

Design your neighbourhood and locate your home. Now, indicate where you consider important, such as places you like to play with or usually go.

For example, 1. My house, 2. Health Centre,
3. Schools, 4. Churches, 5. Community Centre,
6. Internet access, 7. Landline, 8. Football field.

For educators: Not all students feel comfortable in groups or expressing themselves publicly, so we invite students to reflect individually on their neighbourhoods by representing the places where they live and interact with others daily. Starting from their homes, they identify the most representative locations in the neighbourhood. This activity aids environmental perception and future planning of safe routes and communication strategies in case of disasters. It can also be analysed in contrast to the collective activity, exploring the difference in perception and engagement when a student discusses in a group versus thinking individually.

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF03HI09)

Map the public spaces in your area (streets, squares, schools, hospitals, City Hall, and City Council buildings, etc.) and identify their respective functions.

Describe what happens to the listed points when it rains too much; there are strong winds, floods, or hail:

1. Streets and roads:
2. Power grid:
3. Communication skills:
4. Internet cable, mobile, and landline:
5. Ferries and bridges:
6. Water supply:
7. Solid waste:
8. Plantations:

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF07CI08)

Evaluate how the impacts caused by natural disasters or changes in an ecosystem's physical, biological, or social components affect its populations, potentially threatening or causing species extinction, changes in habits, migration, etc. Controversial topics or issues of interest to the class and of social relevance.

For educators: After sensitizing students in the classroom about climate change, climate justice, and their impacts, invite them to engage in a home exercise with family, friends, and neighbours.

Encourage them to recall past events that have affected their local area or their family's history, such as stories of people forced to leave their homes due to droughts, floods, storms, tornadoes, landslides, etc.

This activity aims to tap into family knowledge and gather information on weather events that may not be recorded in official databases like National Centres to foster Climate and Civil Defence.

Tips:

History: Encourage the documentation of family memories and local events related to climate occurrences.

Geography: Describe the characteristics of the territory that contribute to damages and disasters during climate events.

Portuguese: Inspire the creation of written accounts about the events, such as narratives or essays.

For educators:

Participatory collective activity based on memories:

NOSS EDU CLIMA conducted two participatory activities based on collecting climate-related memories:

Sharing audio recordings of memories of experiencing disasters:

1. Sharing audio accounts of experiences of enduring major floods.
2. Group discussion on the most prominent points.
3. Promote Collective reflection on the testimonies, identifying challenges and potentialities, and thematically analysing the topics covered.

Recording videos of elders from traditional communities and showcasing them in a cinema format:

1. Video recording.
2. Minor editing.
3. Large cinema screening.
4. Promote a discussion on cultural aspects, vernacular knowledge, and local highlights in the testimonies.
5. Share desires, dreams, and aspirations for the students.

Tip: **NOSS EDU CLIMA** produced a mini documentary called "Climate (In)Justice Ribeira Valley" with the climate memories collected in this activity. You can use it to inspire your students.

The documentary is available at this link

<https://www.youtube.com/watch?v=59154VR4im0&t=977s>



BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF04LP17)

Produce radio or television newspapers and interviews broadcast on radio, TV and the internet, guided by a script or text and demonstrate knowledge of the spoken/televised newspaper and interview genres.

Hunting Memories

Seek testimonials from your family members in order to understand how disasters and natural calamities most impacted your family.

Which of these events most affects your family (you can choose more than one):

- Floods Storms Overheating Strong winds
 Overcooling Heals Thunder and Lighting Fire

What was the most significant loss your family has ever had due to one of these events?

Now let's try to record a video (approximately 5 minutes) of someone older in the family who can talk about the experience of having gone through the great floods or another natural calamity.

Ask the following questions:

1. Name, age, and neighbourhood.
2. Do you authorise me to share your image and this video in the Research Project "Education for Climate Justice"?
3. Have the floods hit your house?
4. How was it going through the floods?
5. What is the difference between them?
6. Which was more challenging, and what did help the most?
7. What could improve in the event of a calamity like this?

Collective activity:

One way of sensitizing students and working on their perception of our environment is to promote reflection through artistic activities.

To introduce this exercise, you could promote a collective activity related to artistic expression about the seasons.

NOSS EDU CLIMA promoted participatory activities through giant collages and collective activities for students to critically express their perception of the seasons.

For this activity, we promoted artistic awareness through music and creative expression using the methodology of the MOVA Collective.

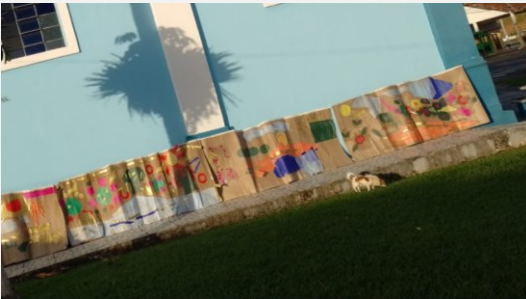
Music was used to foster the perception of the other senses, and large-scale collage contributes to creative development, collaboration between members, creative reflection on climate issues and the power of collective capacity in creating a work with shared authorship.

1. Talk with the students about the impact of climate change on the seasons.
2. Play songs about climate change, the environment and natural elements and encourage reflection on the sensations. E.g. excerpts from "Estações do Brasil" by the Brazilian composer Alexandre Guerra (available on YouTube <https://www.youtube.com/watch?v=RYpvsILFFjE>)
3. Split the students into groups to produce a collective collage.
4. Observe the collage and discuss the experience.

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF15AR13)

Identificar e apreciar criticamente diversas formas e gêneros de expressão musical, reconhecendo e analisando os usos e as funções da música em diversos contextos de circulação, em especial, aqueles da vida cotidiana.

Giant participatory collage about sensitivity to the landscape and the seasons, developed with the MOVA Collective methodology at the Itapeúna State School in the municipality of Eldorado, Vale do Ribeira.



Learn more about the MOVA Collective methodology
www.movacoletivo.com

Source 3: NOSS EDU CLIMA 2022

The frequency of natural phenomena marks the four (4) seasons - Spring, Summer, Autumn, and Winter. The colours of the forest, the rivers, and the sky change, as do the smells and sensations.

Search your memory for your favourite season, describe, draw, or make a collage to express what you consider most significant.

For educators: After the collective activity, invite the students to express their perception through individual creative/artistic expression.

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF01GE05)

Compare the impacts of urban and rural economic activities on the Observe and describe natural rhythms (day and night, variation of temperatures and humidity, etc.) at different spatial and temporal scales, comparing their reality with others)

Pollution, uncontrolled and irregular waste disposal, excessive consumption of plastic, extensive consumption of fossil fuels (petroleum derivatives such as gasoline, diesel oil, kerosene, and coal), fire in the forest, burning of household waste, changing land use for large-scale agriculture, and soil contamination due to the continuous use of pesticides and fertilisers, all affect the environment. **All of these contribute to Climate Change.**

Climate Change, in turn, influences the dynamics of nature and increases the frequency and intensity of natural phenomena, such as rains, winds, droughts, and heat waves.

The rise of these events can profoundly impact our communities, causing irreparable losses and even deaths.

1) In your opinion, which human activity most impacts the environment in our Ribeira Valley region?

For educators: Introduce a discussion on the human contribution to environmental degradation and climate change. Propose a discussion on possible polluting activities in your area and how we can avoid or solve these problems.

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF03GE11)

Compare the impacts of urban and rural economic activities on the natural physical environment as well as the risks arising from the use of tools and machinery.

2) Which human activities do you consider most harmful near your home?

- 1.
- 2.
- 3.
- 4.

3) How could we improve this situation?

Tip: The Research Centre for Organization, Society and Sustainability (NOSS - EACH USP) does a lot of important work in the name of sustainability.

Currently, NOSS has taken part in an international project to promote debate on solid waste, specifically the consumption, production, and disposal of plastics. It published a series of informative and educational publications called "NOSS Rethinking Plastics".

Volume 4 "**Why Single-Use is a Problem**" and Volume 5 "**Zero Plastic Diary: Calculate Your Plastic Footprint**" are important and interesting tools to stimulate classroom discussion about the impact of solid waste on the environment.

The collection is available for free access and download at this link:
<https://www.livrosabertos.abcd.usp.br/portaldelivrosUSP/catalog/series/nosrepensando>



The work also included the production of a documentary divided into three episodes available on the NOSS YouTube channel:

https://www.youtube.com/watch?v=hXxS1KGLH-U&list=PLkFNryQmXhjItWVvbMQ8EjSjsNCsv1sSA&ab_channel=nossusp



Protecting the environment is essential to ensure healthy **living conditions**, as well as to promote the balance of ecosystems and preserve biodiversity.

The Atlantic Forest and Amazon Forest, in addition to their rich biodiversity, are biomes and types of forests fundamental to preventing global warming and climate change.

These forests can capture fossil fuel emissions (CO₂ from oil and coal) and store them at their roots. Therefore, there is a global concern for its preservation.

The National System of Conservation Units (SNUC in Portuguese), law 9985/2000, was created to establish Protected Areas (PA) to ensure the conservation and preservation of nature.

The SNUC defines what is and which are the Protected Areas, their objectives, and what can and cannot be done in them.

There are two main groups of Protected Areas:

PA for Sustainable USE, such as APA's Quilombo Medio Ribeira, where communities are allowed to live inside.

PA for Integral Protection, such as Natural Parks (PETAR, Devil's Cave, and Intervals), in which community settlements are forbidden.

In areas of Integral Protection, such as parks, the Brazilian legislation established that traditional agriculture (using fire), livelihood, and domestic animals (farms, dogs, and cats) impact biodiversity. Therefore, it is necessary to remove families from these areas.

To protect nature, the Government of São Paulo set up various parks of integral protection in the Ribeira Valley, in areas that overlapped several rural, historical, and traditional community settlements.

While the government tried to protect nature, implementing those parks impacted these communities drastically due to imposed lifestyle shifts. A lot of them migrated in search of better conditions for subsistence.

Find out if the establishment of the parks has impacted your family and community. Try recording audio or videos from elders. Discover what it was like before the natural park implementation and what has changed in the following points:

- 1) How have the natural parks changed your family's lifestyle?
- 2) Have the natural parks impacted your family's subsistence?
- 3) Has the relationship between the people in your community changed?
- 4) What happened to the family size and community population?
- 5) What was better before, and what's better now?
- 6) Is there anything about the park that makes you feel insecure?

For educators: If the school doesn't serve students who live in an area where conservation units have been implemented, invite students to imagine how this could have happened. What are the possible consequences?

Discuss issues related to climate justice, environmental injustice, and environmental racism.

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF05CI03)

Select arguments that justify the importance of vegetation cover in maintaining the water cycle, soil conservation, water courses and atmospheric air quality.

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF03GE03)

Recognize the different ways of life of traditional peoples and communities in different places.

For educators:

One way to improve our ability to perceive the conditions of injustice in our territory is to promote a critical eye while walking. In English, this process is called "**Transect walk**" and is widely used in participatory planning. **NOSS EDU Clima** has incorporated this methodology into its educational processes to strengthen students' understanding of the territory and their ability to participate in and analyse decision-making in their territories.

Collective activity:

For the "Mapping problems" exercise, students need to be trained in observing the landscape, finding landmarks and walking with intent. **NOSS Edu Clima** developed the following activity:

1. Introduce issues related to the physical environment for healthy and equitable cities.
2. Print out a satellite image of the area around the school and distribute it among the students.
3. Pre-establish a route and draw it on the map.
4. Try to walk on the pre-established route, observe and identify it on the map:
 - Problems (you can use the list on page X as a basis or develop your own list.
 - Public facilities.
 - Private facilities.
 - Identify possible safe places to shelter in the event of a disaster.
5. Return to the school, dialogue about students' impressions of the most evident problems, challenges and potential.

Preparing materials for individual mapping

For the following activity, it is necessary to print pictures of the neighbourhoods where the students live, ideally so that the students can identify their houses, facilities, and green areas.

Tip:

When you go to Google Maps, choose to view the satellite image. Then, turn off markers such as street names and utilities, leaving only the image. Right-click and print the page with the student's neighbourhood in the centre. Maintaining scale between images distributed to students from different neighbourhoods is essential. Distribute the pictures in black and white.

First, the students identified where they lived in the satellite image, and after, they were trained to pre-establish a route to observe their neighbourhoods' environmental problems and risks.



Source 4: NOSS EDU CLIMA 2022

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF02GE09)

Identify objects and places of experience (school and home) in aerial images and maps (vertical view) and photographs (oblique view).

Hunting troubles and reading satellite images!

Now, we will find out how to identify problems in our neighbourhood from on-site observations. First, we are going to locate them in a satellite image.

The goal is to learn how to read maps and Satellite images to identify flood zones, safe routes, and places that can give support in case of natural disasters and calamities.

1. In the maps, identify your home and other equipment, such as hospitals, schools, churches, etc. Use the word's first letter for the legend and paint it yellow.

H: Home

S: School

HC: Health Centre

S: Shed

M: Market

C: Churches

CC: Community Centre

S: Sports hall

FF: Football Field

T: Transport

2. If you live near or within a park, draw a dashed (green) line - - - - - where the park borders.

3. Draw a blue line where severe flooding might occur.

4. In the event of a calamity caused by major floods, draw in red the safe routes for people to escape in case your community is affected.

5. Lastly, paint the safe places that can host the displaced people and their belongings in red.

Example:

CAPTION

Park Boundary



Flood (blue)



Escape Routes (red)



Safe places to shelter (red)



Equipment



Now, you will need to walk around your neighbourhood and seek to identify the problems on the map. Pay attention to your route so you do not get lost. Mark and establish a starting point and landmarks you want to pass through during your walk, for example, your home, the river, the Church, etc.

Type the letter P + a number on the map to identify problems.

If possible, take pictures of them. Photos are essential to remember the details that we observed on the site.

PROBLEM CAPTION

p1: Lack of street lighting.

P2: Road network with problems

P3: Waste disposal.

p4: fire in the forest.

p5: Burning of household waste.

P6: Need for street drainage.

p7: Open tap.

p8: Bridge or ferry has broken.

p9:

P10:

P11:

P12:

Glue your map here after you are done.

For educators: Discuss the Problem Caption with students and adjust as needed. Share notebooks and encourage discussion/presentation about what they discovered in their areas.

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF03GE07)

Recognize and elaborate legends with symbols of different types of representations at different cartographic scales.

In the event of disasters, our problems get worse. Usually, to find the solution to a problem, we need to think the other way around. "Hole in the street" would be solved with "hole in the street covered."

Now ponder: How could we solve the problems you identified?

P1:

P2:

P3:

P4:

P5:

P6:

P7:

P8:

P9:

P10:

P11

P12:

For educators: Problem-solving is an important skill to develop with students. Once you have identified the problems, encourage discussion about how to solve them, and then invite students to think about solutions to the problems they have identified in their areas.

Triggering the Public Prosecutor's Office to solve our problems!

It often takes a long time to fix the road, restore the power supply, and have the internet and landline work again.

In Brazil, the quilombos¹ communities of Ivaporunduva, Galvão, and São Pedro were days without a bridge and a ferry after a flood, as both were damaged.

The traditional community of Bombas in Iporanga has no roads, and sick people must be carried on their shoulders to access health services in emergencies.

In Iporanga, the population is clamouring to guarantee their right to access information and participation in the public bid for the Natural Park- PETAR concession.

Even though the government must guarantee citizens' constitutional rights, these rights often become neglected.

To pressure governments, we can request action via prosecutors. Any citizen can activate the Public Prosecutor's Office, which should supervise governments demanding clarification sums and measures.

Choose an issue that is never solved in your community and write a letter to the Public Prosecutor's Office using the following template:

¹ Quilombo are traditional communities from black people slavery background.

For educators:

Political education is fundamental to promoting citizenship, so it is important to promote formal language skills and competence in formulating arguments. The Letter to the Public Prosecutor, more than practising argumentative writing based on reflection on cause and consequence, seeks to provide a formal model for requests for clarification and action in legal and administrative offices.

1. First, introduce aspects of the three branches: executive, legislative, and judicial.
2. Please explain what the public prosecutor's office is and its public role.
3. Promote a debate on the multiple consequences of problems related to extreme events (for example, the collapse of systems such as transportation, energy supply, WASH, and communication).
4. Students can write collectively or individually about the same problems or choose one specifically.

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF89LP19)

Analyse, from the context of production, the form of organization of open letters, petitions and online petitions (identification of the signatories, explanation of the claim made, accompanied or not by a brief presentation of the problem and justifications aimed at supporting the claim) and the proposal, Discussion and approval of political proposals or solutions to problems of public interest, presented or read in the digital participation channels, identifying their linguistic characteristics, in order to enable the conscious writing or signing of petitions and texts of this nature and to be able to position oneself in a critical and reasoned way in the face of the proposals.

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF04GE03)

Distinguish functions and roles of municipal public power bodies and channels of social participation in the management of the Municipality, including the City Council and Councils

_____ , _____
Place date

To the Public Prosecutor's Office,

Your Excellency, Sir/Ma'an, _____

I, _____ id, _____
_____, ask respectfully your support in
providing means to solve the following problem

Problem:

Justification (how long the problem has happened and the
consequences of this problem):

I thank you for your attention and collaboration.

Best regards,

Name/signature

For educators: You can also propose the development of an **OPEN LETTER**, which is an argumentative textual genre to transmit information of collective interest. It often has a notion of protest concerning some social problem and matters of public interest so that they can be used as an instrument for community alert and awareness.

This genre is also commonly required in evaluation processes, competitions, and universities because it works on the argumentative capacity of authors in specific situations.

The EDUCAMAISBRASIL, a Brazilian platform, which supports school students to be prepared for universities applications defines:

"OPEN LETTER": textual genre used to discuss matters of public interest¹

The **open letter** is an argumentative text genre of the Portuguese language that aims to convey information of collective interest. In general, the way the open letter is written expresses a sense of protest against some social problem. The open letter can be used to externalize a problem that is of public interest and to alert or raise awareness. Its language has a **persuasive style** since the writer usually intends to convince the reader of their ideas. Also called **an epistolary text**, the open letter is also used to instruct, inform, advocate, or entertain. The interlocutors are usually collective entities such as communities, governments, unions, associations, etc. The content of the text can vary, combining argumentation with description or instructions, for example. In the open letter, it is possible to propose a solution to the problem discussed in the text and to motivate the recipient to solve it consciously and reflectively. This particular communicative situation allows the expression of opinions and the freedom to deal with a problem. The open letter has a textual structure similar to the argumentative letter. Both have an argumentative quality on a specific topic and discursive purpose in a persuasive format that encourages readers to agree with their opinions. The structure of this letter template also consists of an introduction, development, and conclusion. It should also include the location, date, greeting, recipient, sender, and closing. The difference is that your recipient is specific.

Structure of the OPEN LETTER

1. **Title** - the recipient is highlighted right in the title, as the writer addresses him immediately to start talking about the subject.
2. **Introduction** - in this part of the letter the sender talks about the problem and what he wants to make clear in an attractive way.
3. **Development** - in the development, the sender reports and analyses the problem, presenting reasoned arguments with the writer's point of view.
4. **Conclusion** - The conclusion of the open letter closes the speech with a suggestion for a solution to the problem exposed.

Use of letters in current days

Open, argumentative, personal, and reader letters can be viewed in oral and printed forms, published in electronic media, and in academic settings. In addition, as an evaluation proposal in schools, colleges, entrance exams and competitions. From this point of view, it is evident that the open letter is an important resource for the political participation of citizens, given that the subject addressed in an open letter is **of collective interest**. For this reason, the use of this communication format is still very important today, as it contributes to freedom of expression."

To learn more, visit the link available at:
<https://www.educamaisbrasil.com.br/enem/lingua-portuguesa/carta-aberta>



Building scenarios and interpreting social roles

Now that you have identified your community problems, thought about their solutions, and called the Public Prosecutor's Office, let's think about how we can act if the worst happens.

Draw or describe the worst situation you, your family, and your community could find yourself in if there were an environmental disaster such as floods, fires, etc.

For educators: Thinking about possible scenarios is a useful exercise to encourage problem-solving skills. Once students are in a problem-solving mindset, introduce the IPCC projections to raise awareness. The IPCC has plenty of resources to enable visual, auditory, and other forms of learning with this material.

Then, invite students to think about an adverse scenario using their creativity and preferred language.

Tip: "Tomorrow is Today" is an intriguing documentary series that tells stories about those already affected by climate change in Brazil. The initiative is based on research by Ricardo Abramovay, Carlos Souza, and José Marendo.

Access the documentary at this link:
<https://oamanhaehoje.com.br/>



BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF07CI13)

Describe the natural mechanism of the greenhouse effect and its fundamental role in the development of life on Earth, discuss the human actions responsible for its artificial increase (burning of fossil fuels, deforestation, fires, etc.) and select and implement proposals to reverse or control this situation.

For educators:

Collective Activity: In addition to imagining possible realities, we can have the otherness to imagine how the impacts affect people differently and develop empathy to help those who need it most.

NOSS Edu Clima promoted a role-playing exercise with students to incentivise collective reflection on those who suffer the most and the different roles we can assume in the face of action in the event of a calamity.

1. Students should be organised in small groups by neighbourhood proximity.
2. Orient students to define a fictional situation that can be interpreted during natural disasters and to
3. Encourage students to establish their roles and create a 5-10-minute narrative.
4. Give 30 minutes for rehearsal and preparation.
5. Promote the group's presentation.
6. Ask students to explain why they developed this narrative.
7. Conclude with a discussion on the issues raised during the presentations.

*Seek to promote the presentation to the entire school community and teachers.

Theatre developed with the students of the rural school in the municipality of Iporanga in the Ribeira Valley.



Source 5: NOSS EDU CLIMA 2023

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF15AR20)

To experiment with collaborative, collective and authorial work in theatrical improvisations and creative narrative processes in theatre, exploring from the theatricality of everyday gestures and actions to elements of different aesthetic and cultural matrices.

In the case of disasters and calamities, people cannot react in the same way. This difference can be understood by analysing that population's social, economic, and environmental vulnerabilities.

Living conditions, gender, location, communication skills, knowledge, age, and financial resources influence individuals or the community's capability to act.

In the case of calamities, some are more impacted than others.

Considering the worst situation you have designed or described, consider the following:

1) Who would be most impacted in your community or family?

2) What could you do to help your community and family?

3) What could you do if you were a community leader?

4) What could you do if you were the city's mayor?

Reflect on the differences in the acting power in each position.

1. You as a citizen:

2. You as a community leader:

3. You as the city's mayor:

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF02HI02)

Identify and describe practices and social roles that people play in different communities.

Now, draw and/or describe the future you want for your community.

For educators: Climate action is not only about identifying and solving problems, but also about the ability to imagine the future we want.

At the end of this journey, ask students to express the future they want for their territories.

BRAZIL'S NATIONAL EDUCATIONAL CURRICULAR (EF08LI11)

Produce texts (comments in forums, personal accounts, instant messages, tweets, reports, fiction stories, blogs, among others), with the use of writing strategies (planning, draft production, revision and final editing), pointing out dreams and projects for the future (personal, family, community or planet).

Feedback

We have reached the final of the "Climate Detective" exercise! Finally, we would like to know what you think of the activities.

Have you participated in all of our face-to-face activities?

Yes No

What did you like the most?

What did you like the least?

Are there any other observations you would like to make about the exercise?

We are very grateful that we walked together on this adventure!

TEAM NOSS

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