

FRUTUROS

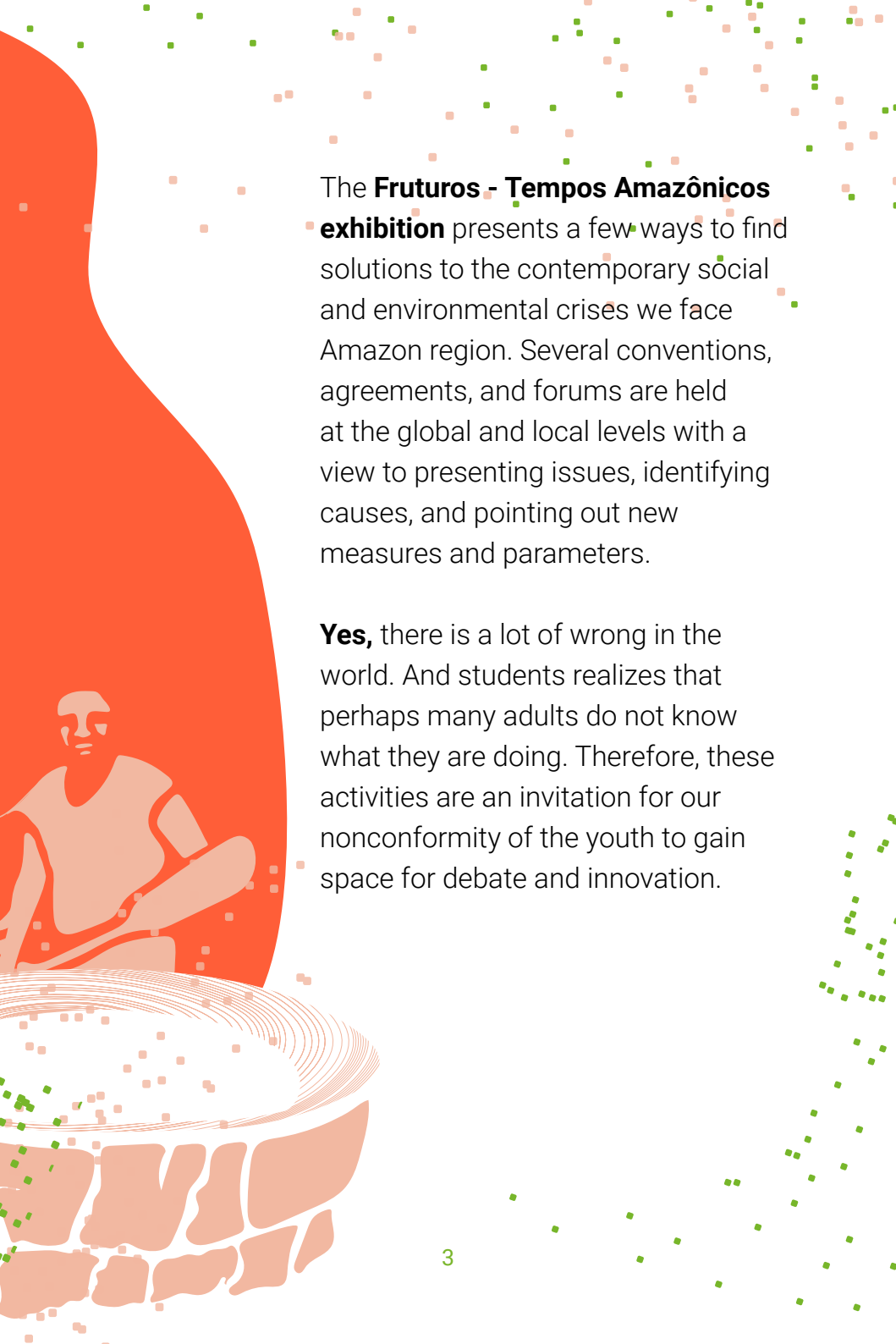
TEMPOS AMAZÔNICOS

EDUCATIONAL MATERIAL

15 TO 17 YEARS OLD

It is typical of the attitude of young

people, from the age of 14, to come into conflict with the world. This is a reflection of an internal movement that seeks to reconcile childhood and adult life. **It is up to us**, as educators, to fuel this eagerness in building new truths. To argue, question, and recognize that the world does need to be changed offers great comfort to young people, even in the midst of the typical inconsistency of their age.



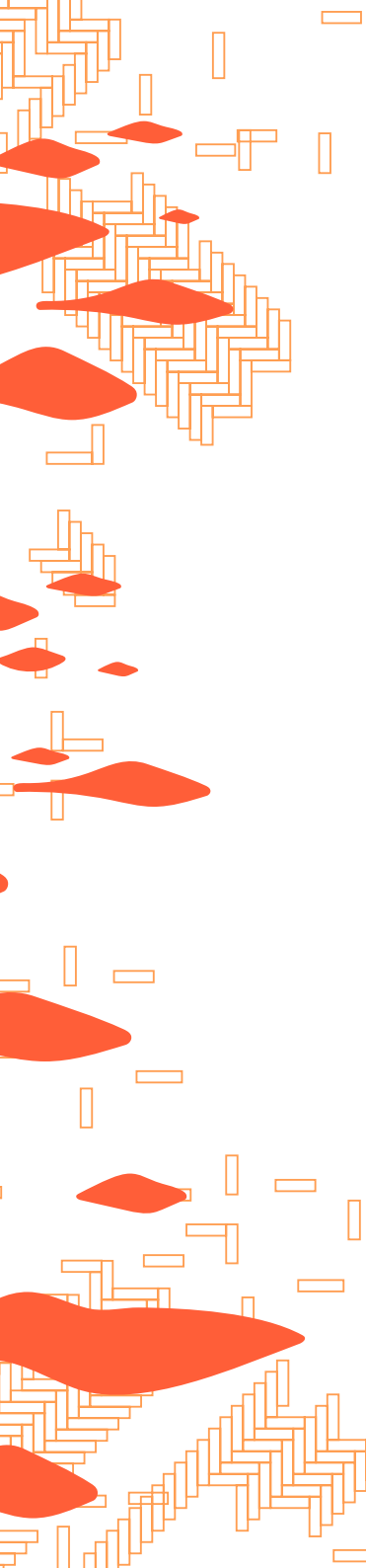
The **Fruturos - Tempos Amazônicos** exhibition presents a few ways to find solutions to the contemporary social and environmental crises we face Amazon region. Several conventions, agreements, and forums are held at the global and local levels with a view to presenting issues, identifying causes, and pointing out new measures and parameters.

Yes, there is a lot of wrong in the world. And students realizes that perhaps many adults do not know what they are doing. Therefore, these activities are an invitation for our nonconformity of the youth to gain space for debate and innovation.

WORKSHOP 1

FUTURE IN DEBATE

The creation of a debate forum generates the strengthening of the students' autonomy and creates the necessary space for new content to take shape. In this section of the educational notebook, we propose the presentation of the document created by the UN in 2000, and updated in 2015: The Sustainable Development Goals (SDG). More specifically the second goal: **End hunger, achieve food security, improve nutrition and promote sustainable agriculture.** The 17 SDGs bring essential reflections to critically think about society.



Establishing the relationship between food security and sustainable

agriculture with the preservation of nature and local cultures is crucial for the development of the activity. It is recommended that this goal is clear in the main stages of the proposal, which are: presentation of the UN missions, research on specific issues in the Amazon, opening of the forum and synthesis of the discussion.

In addition to associating global goals with the current situation in the Amazon, **students need to reflect** on the possibilities and limits of local/individual actions to solve the problems raised in the texts. It is worth questioning with the students themselves: what local solutions can be taken and what are their limits in the face of the system we live in? What could be transformed in society to fully achieve the second SDG?

FORUM



It is necessary to expose the UN missions and to provide information on the current situation in the Amazon for the organization of the forum. Students can be divided into groups to read the texts indicated at the end of this proposal. The organization of this dynamic will depend on the availability of time for the work project and on the conditions that students have to carry out research.



On the day of the forum, **each subject must have the same time to be presented.** After the explanations, students can raise questions and make connections with other subjects.

Throughout the process, students must register the issues and points of greatest interest, making a synthesis of arguments. As a way of structuring the process, issues will be raised by means of a debate with students and teachers: its possible actions and intervention, as well as the obstacles and difficulties to executing them.

A collective way of registering this discussion is by making use of a Mind Map, which encompasses drawings, schemes, texts, and images.



MIND MAP


The construction of a mind map is a way to relate scientific knowledge with everyday life and other knowledge. This tool enables students to materialize the debates, inserting on the map the data they have researched and important reflections on the transformations that the Amazon space is undergoing.

It is possible to create a mind map on a sheet of paper, if done individually, or on cardboard or manila paper, if done in groups. The goal is to have space for drawings, words, and signs that connect the information spatially.

FORUM STEPS

The time for this work project can be quite elastic, given the wealth of discussions that the topic can bring, but we suggest a schedule:

- **Class 1:** Presentation of the activity and explanation of the Sustainable Development Goals;
- **Class 2:** Approach of the 2nd topic of the SDG and guidance for students on the topics indicated for research - found at the end of this section; in this class, the students can be separated into groups that will choose one of the texts to be read, discussed, and analyzed, first in their respective groups, and then they will be presented for general discussion;

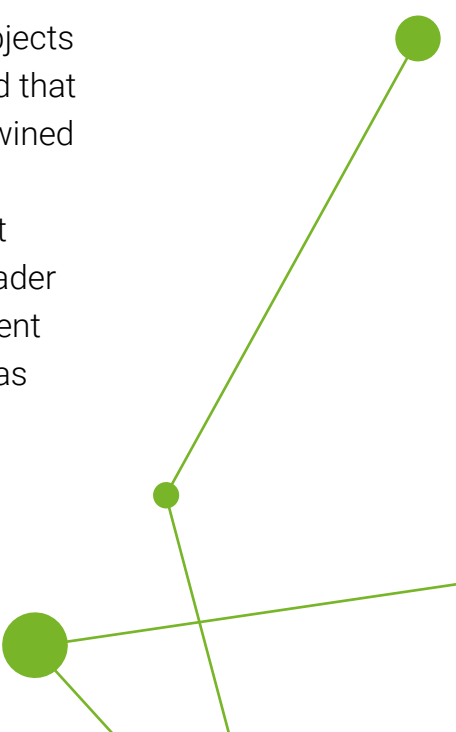


• **Classes 3 and 4:** Students separated into groups to read the texts with the themes already mentioned and prepare the presentation for the day of the Forum;

• **Class 5 / Forum:** We suggest that the forum lasts longer than one class, which will be easier if professors from other subjects contribute with different scientific perspectives to the debates on the themes present in the texts. For example, approaching the topic from the point of view of its Geography and Biology of it.

The contributions of the other subjects will make the students understand that the areas of knowledge are intertwined and that, in this way, it is possible to see the issues through different prisms, making them present broader resolution proposals for the different social and environmental dilemmas found;

• **Class 6:** Making the Mind Map. Whether carried out individually or in a group.





Search topics for the forum

Sustainable Development Goals: The Sustainable Development Goals were introduced in 2015 as an update to the Millennium Development Goals, made in 2000. The reformulation was carried out by adding agreement goals that were not reached and others that had not been considered. The second SDG: End hunger, achieve food security, improve nutrition and promote sustainable agriculture, for example, was previously the first MDG: Eradicate poverty and hunger. This shows that in addition to ensuring food security, it is necessary to be concerned with the quality of the food offered to the population and the way in which it is produced.

In the theoretical material available about the exhibition **Fruturos - Tempos Amazônicos on the Museu do Amanhã website**, there are several topics to support students for the forum.

We have selected the following topics to start the discussion of the second goal of the SDG relating it to the Amazon:

Second Sustainable Development Goal:

<https://brasil.un.org/pt-br/sdgs/2>

Components of sustainable agricultural management:

<https://saudeealegria.org.br/economia-da-floresta/>

**Economics of Social
Biodiversity in Pará:**

[https://publications.iadb.org/
publications/portuguese/document/
Economia-da-sociobiodiversidade-no-
estado-do-Para.pdf](https://publications.iadb.org/publications/portuguese/document/Economia-da-sociobiodiversidade-no-estado-do-Para.pdf)

**The relationship between poverty and
the advance of deforestation:**

[https://fas-amazonia.org/programa-
bolsa-floresta/](https://fas-amazonia.org/programa-bolsa-floresta/)

**The way we consume food and the
ethics with which it is produced:**

[https://slowfoodbrasil.org/fortaleza/
fortaleza-do-warana-satere-mawe/](https://slowfoodbrasil.org/fortaleza/fortaleza-do-warana-satere-mawe/)

Instituto Kabu (Kabu Institute):

[https://www.kabu.org.br/alternativas-
economicas-sustentaveis-e-
seguranca-alimentar/](https://www.kabu.org.br/alternativas-economicas-sustentaveis-e-seguranca-alimentar/)



Agroforestry:

https://ipoema.org.br/conceitos-de-agrofloresta/?gclid=Cj0KCQjwI7qSBhD-ARIsACvV1X12Vkdx8fywl9Wr0e22JekbEs6rpHn700sOrXNSZCtEvhy0B3g5NUIaAiz4EALw_wcB

Brazil as the world's granary:

<https://noticias.uol.com.br/meio-ambiente/ultimas-noticias/redacao/2021/10/27/amazonia-87-do-desmame-em-terras-publicas-ocorreu-em-areas-nao-destinadas.htm>

Mercury contamination:

<https://institutoiepe.org.br/2021/12/estudo-revela-alta-contaminacao-por-mercurio-em-mulheres-do-amapa/>

Enjoy!

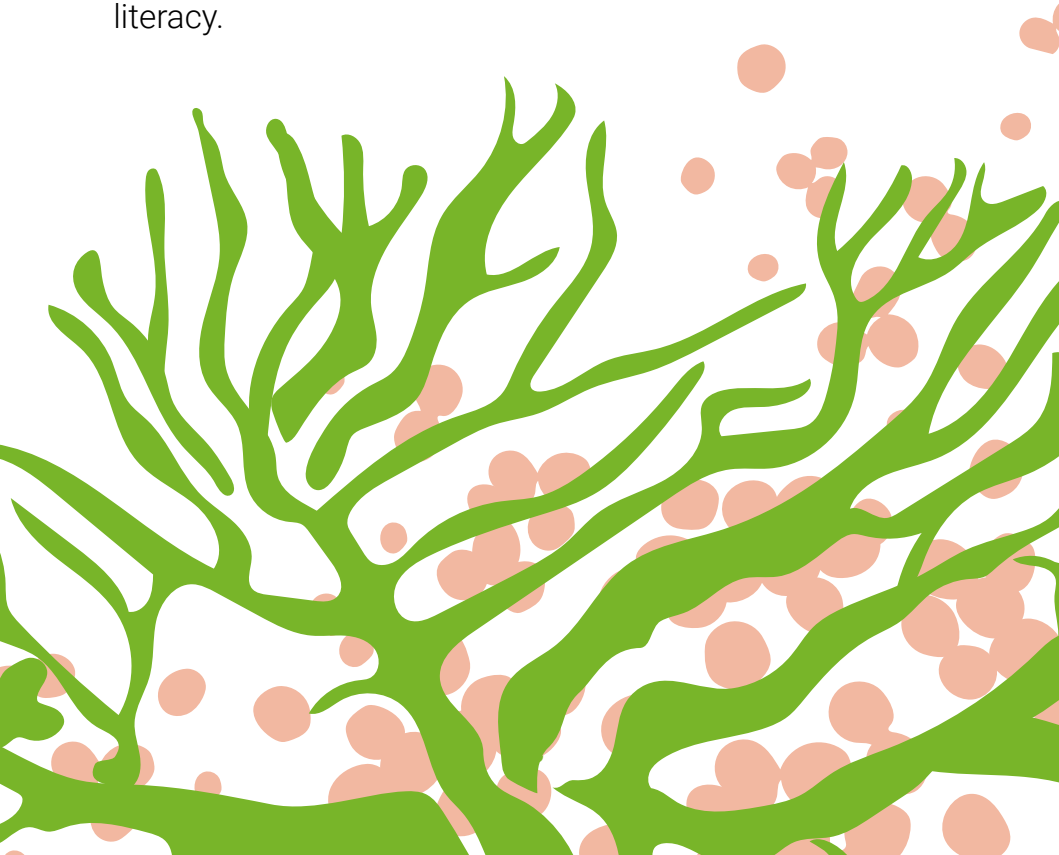


WORKSHOP 2

SEEDING FOR THE FUTURE

Relating works of art to content from other subjects can be a challenge for teachers with other professional backgrounds. Paintings, sculptures, and photographs do not have to be mere illustrations of scientific or social processes: they are allies in building knowledge. **The Visual Arts have tools** for the critical use of images, and this visual literacy can - and should - be appropriated by educators from other areas.

It is very important that High School students understand the importance of images in everyday life, connecting them to each other and to the general context. **We are bombarded by photos, memes, and videos** more than any other generation, so it is essential that we critically reflect on this visual content. The creation of a catalogue of quality images is one of the success factors in this process of visual literacy.



This increase in references must happen throughout the students' education, so we selected the artists **Sebastião Salgado and Frans Krajcberg** to introduce the theme of our work: deforestation and artisanal mining in the Amazon region.

To add to this visual literacy, we suggest reading the book 'A vida não é útil' ('Life is not useful') by **Ailton Krenak**.

Finally, as a practical part of this activity, we propose the creation of a vegetable garden and reflection on the impact of individual decisions on the capitalism system in which we live.

ACTIVITY 1

• IMAGE READING

The research **On methods of reading images in the teaching of Contemporary Art** brings a comparison between different methods of reading images. We chose Edmund Feldman, educator and professor who proposes four stages to analyze works: description, analysis, interpretation, and judgment. In methods of the art educator Robert William Ott and Abigail Housen, art educator, the final step involves a practical production of a work of art, as a way of absorbing technique and content. A vegetable garden, an experiment, a poem can also be the final stage of a reading.


Next, we have the description of the reading steps made by the authors Gustavo Cunha Araújo, art educator, and Ana Arlinda Oliveira, Ph.D. in Education. It is important to guide students through questions in this order, but it is common for them to advance to other stages in the description. No problem! At the end of the process, it is nice that they have completed all the steps.

Stages:

Description: Identify what you see in the visual work, only what is evident.

Analyze: Identify elements of the visual composition in the work, establishing connections between the elements.

Interpretate: Give meaning to what you observed in the work, trying to identify the ideas, feelings, and expressions intended by the author.





Judge: Apply judgment of value on the work, whether it is important or not, whether it has aesthetic quality.

The artists chosen to be analyzed are **Sebastião Salgado and Frans Krajcberg**. Both are known for their artistic activism. The first work is a photograph that brings several elements to be read about a historical event. The second is a sculpture that involves a greater degree of abstraction to talk about deforestation. Both require thematic contextualization.

Sebastião Salgado

Sebastião Salgado, Brazilian, is one of the most important photographers alive in the world and has won several awards. His works on Serra Pelada and in the Amazon have been widely circulating with exhibitions and books in recent years.



The background of the page is a complex, abstract pattern of thin, light orange lines. These lines form a dense, interconnected web of shapes, some resembling a city grid or a network of paths. The lines vary in thickness and orientation, creating a sense of depth and movement. The overall effect is a textured, geometric backdrop that frames the text.

We suggest his photographic series about the Serra Pelada artisanal mining in the 1980s. What happened in southeastern Pará was a phenomenon: Shortly after the discovery of gold, the mountain range had no more vegetation, and in a few years, it became a crater. The exploration site once had 50,000 men working in the hopes of getting rich. In addition to deforestation, the contamination of the ecosystem with mercury was a major environmental problem caused by this immense open-pit mining.


Artist: Sebastião Salgado

Work: Série de Serra Pelada (Serra Pelada Series)

Year: 1986

Technique: Photography

Available on websites.



A few trigger questions that can be asked during the reading:

- Who is in the foreground in the image?
- What do people seem to be doing in this foreground?
- Looking at the workers, what do the working conditions look like? What about relations between workers?
- In the background, is there some sort of visible organization?
- Is there any authority in the photograph?

Frans Krajcberg

Frans Krajcberg was born in Poland in 1921 and lost his entire family in the Holocaust. He moved to Brazil in 1948 and began his activism in favor of the Amazon and Atlantic Forest in the 1970s. The chosen work is called Bailarinas and was exhibited at the 32nd Bienal de São Paulo, Incerteza Viva in 2016, whose curatorship brought several works with an environmental theme. The installation is made up of burnt trees,

painted with natural black and red pigments. **They show nonconformity** with deforestation and are a “cry for help”, as said by the artist himself. This action of rescuing dead trees and placing them in an exhibition situation, giving a purpose to the material resulting from the destruction evokes the memory of burned forests.

Artist: Frans Krajcberg

Work: Bailarinas

Year: 2016


Technique: Sculptures made of burnt wood collected from the mangrove of the State of Bahia and natural pigments

Link to the image: <https://infograficos.estadao.com.br/public/caderno2/32-bienal-incerteza-viva/>

Picture: Gabriela Biló - Estadão



Triggering questions:


- What material appears to have been used to make this work?
 - Do the base and top of the works give any clues as to what might have happened to this material?
 - Does the work establish a dialogue with its surroundings? Which one?
 - Does the title add any different interpretation to the installation?
 - What are the possible intentions of this work?
 - Why did the artist choose to value elements of an environmental tragedy? What is the impact of this?
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ACTIVITY 2

• TO READ


Indigenous leader and one of the main contemporary thinkers, **Ailton Krenak** wrote the books *Ideias para adiar o fim do mundo* (Ideas to postpone the end of the world), *A vida não é útil* (Life is not useful), and *O amanhã não está à venda* (Tomorrow is not for sale). These works bring reflections on the way we live, challenging the notion of human superiority. Its point of reference is the indigenous ways of living with the awareness that there is no humanity without nature and that we are part of it.

In this activity, we recommend reading the book **A vida não é útil** with the classroom.

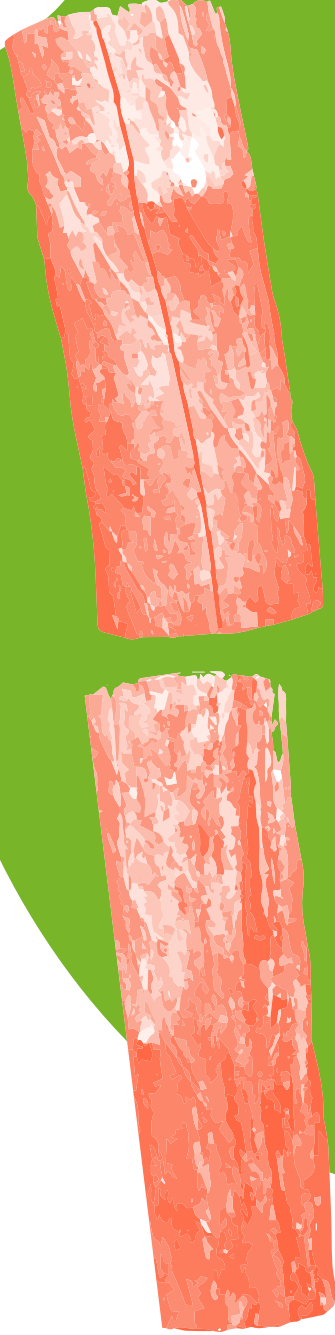


In the third chapter **A máquina de fazer coisas (The machine for making things)**, Krenak discusses how we link consumption to the right, and that thinking about reducing deforestation is not enough. For the preservation of species, it is necessary to completely stop all activities that harm nature. There is no throwing away: everything we consume and waste has a direct impact on the Earth. **The following is an excerpt that introduces these thoughts:**

“When native peoples refer to a people as “a nation that stands”, they are making an analogy with trees and forests. Thinking of forests as entities, vast intelligent organisms.



In those moments, the genes we share with the trees speak to us and we can feel the grandeur of the planet's forests. This feeling again, mobilizes people for the idea, which has already become commonplace, of protecting forests. There are clubs that associate with each other to protect a forested area, to create a nature reserve, and right here, one of my neighbors, Sebastião Salgado, has a rural area called **Instituto Terra.** This is a small sample of the devastated region of the middle Doce river that was managed in order to show people how it is possible to restore the forest. Each of us - not the economy, not the whole system - can act in a positive way in this chaos and work, so, to speak, for self-harmonization



However, in the last forty years, the fight to contain deforestation has even turned into a program of the World Bank, the UN, and everything has proved ineffective. We could not stop the deforestation of the planet. The only forests planted with great competence and volume capacity are the short-lived ones, which in six or eight years are cut down to become cellulose. What I am trying to say is that my personal choice to stop destroying the forest cannot cancel out the fact that the planet's forests are being devastated. My decision not to use automobiles and fossil fuels, not to use anything that increases global warming, does not change the fact that we are melting. And when we reach another degree and a half of temperature on the planet, many species will die before us.

That white bear that walks in the Arctic is already looking like a dog that got lost, he is starving, his color has changed, he is sick, it hurts to see that bear. I do not think it was a publicity stunt to use his image to show how we prey on life in the Arctic.”(Krenak, 2020, p. 52, 53 e 54).

Brazil has become the granary of the world, and this comes at a cost:

the Amazon is deforested so that low-efficient livestock can grow.


We do not consume this amount of meat in the country, we export it - even less and less Brazilians have the economic power to buy meat.

Logging activities and soy planting contribute significantly to this destruction as well.

Another factor is illegal mining, in this predatory sense pointed out by Krenak, it directly threatens the health of rivers, contaminating water, land, animals, and people with mercury. In addition, it is an activity often related to slave-like labor and is still very similar to the conditions we observe in Serra Pelada. Currently, we can cite conflicts generated by the exploitation of minerals in the Indigenous reserves of the Kayapó people and the floating city of illegal gold miner that formed on Rio Madeira in 2021.

Both deforestation and mining antagonize the need to demarcate Indigenous lands. In the last year, the procedures for the approval of the PL490 made this evident. This PL 490 provides:



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- Change in the rules for demarcating Indigenous lands using the time frame of the 1988 constitution as a reference;
 - Prohibition of expansion of existing reserves;
 - Permission to explore the territories without consulting the peoples who inhabit them;
 - Liberation of the cultivation of transgenics in these areas;
 - Threat to the health and survival of peoples in voluntary isolation.

The very notion of the existence of a time frame to define the occupation of Indigenous lands is controversial, since the native peoples were in Brazil before the colonization, not needing to prove a right to the land.

We need to talk about this, that is why reading writers like Ailton Krenak is so necessary.

ACTIVITY 3

- VEGETABLE GARDEN

For a practical conclusion of this discussion, we propose the execution of a collective garden. Will the execution of this vegetable garden stop deforestation? Probably not. So why do it with the students?

In large urban centers, people do not have the chance to see the production of what they eat. This not only affects your health but reflects our relationship with the time and distance we have from nature. Thus, collectively planting is an attempt to see our possibilities to live and reflect on what is important for our life, in a broad sense of collectivity.

Before starting to plant, it is necessary to decide which garden model will work best for the community: **Does the school have a space with land that can be planted?**

Or would it be better to improvise with boxes in the patio to be able to circulate among the plants? What place in the school has the best lighting?

Another aspect that must be tended to **is the soil**, which can be fertilized with worm humus and vitamins. If seeds are available, several species can be planted. We suggest that students collect seeds from foods they already consume and that can be planted more easily. If possible, give preference to organic foods, the seeds of which have a greater chance of thriving.





STEP-BY-STEP OF THE GARDEN:

- 1.** Choose the location considering the lighting and protection of the seedlings.
- 2.** If there is no area suitable for planting in the school, the garden can be organized in boxes with containers for the plants inside. Tetra Pak packages and bottles can be used instead of vases, avoiding their disposal. It is necessary to cut them to a height of 15cm and make holes in the base so that the water does not accumulate.
- 3.** The soil used must not be compacted, it must be light, retain moisture, have good drainage and be rich in organic matter. For such, it is necessary to mix organic substrate (hummus, for example), vermiculite (you can also use coconut fiber or tree bark that absorbs water) and earth in equal amounts.

It is recommended to moisten it while mixing the elements, as vermiculite or coconut bark powder is dry

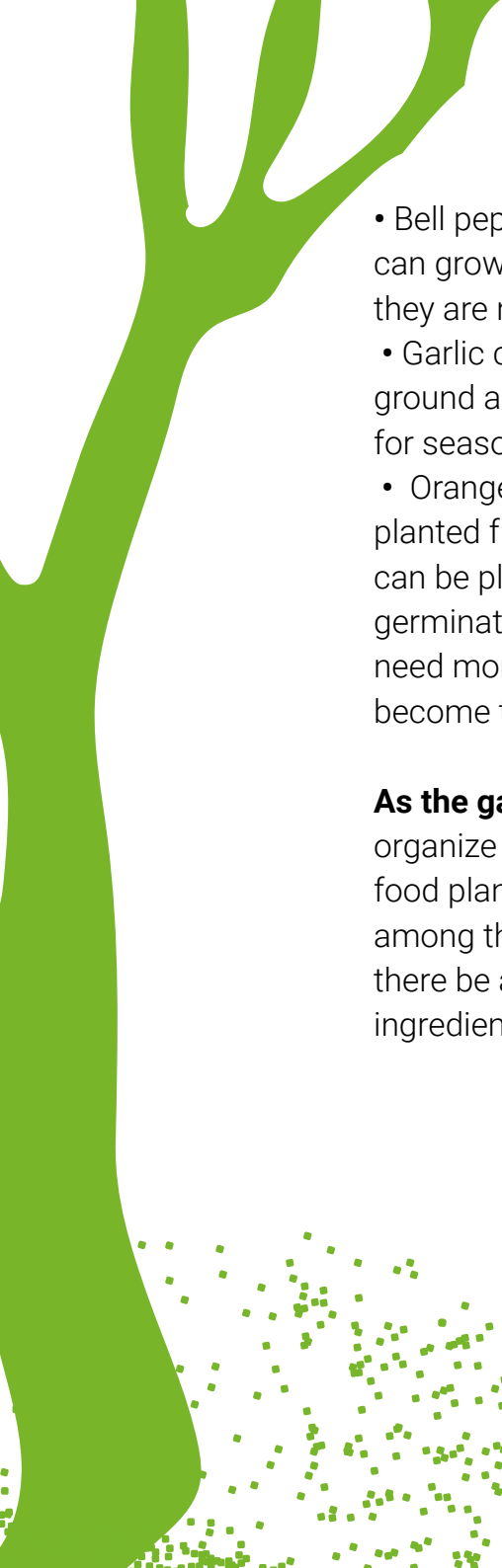
4. Plant the previously germinated seeds or seedlings available, paying attention to the individual care of each plant. It is possible that a part of the garden is in a region with more shade and another part is installed in a place with intense natural lighting.

5. Garden care should be frequent, and a rotation scheme can be created among students for its maintenance.

It is also necessary to consider the time required for food to grow and that many may not germinate due to different conditions (excessive water, lack of light, poor quality of the soil, among others)

It is interesting to plant a few pots of each variety and observe throughout the process which ones have developed best in the environment to research other foods that thrive in the same conditions. **We suggest some simpler foods to start with:**

- Potatoes can just be cut and planted in the ground; it is possible to see the first signs within two months;
- Basil can be reproduced by placing a few stems in water and planting in the pot after the roots appear. Once grown, they can generate new plants by the same process;
- Pineapple can be planted from its own crown, just dip it in water, wait for the roots to grow and plant it in the ground;

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- Bell peppers, peppers, and tomatoes can grow from their own seeds, but they are more difficult to cultivate;
 - Garlic cloves can be placed in the ground and their sprouts can be used for seasonings and salads;
 - Orange, lime, and pitanga can be planted from the seed itself, which can be placed in water, and once germinated, placed in the vase. They need more space because they become trees before they bear fruit.

As the garden develops, students can organize what will be done with the food planted: Will they be distributed among the school community? Will there be a collective snack with the ingredients?

Sources

Regarding methods for image reading methods in teaching Contemporary Art:

<https://periodicos.uem.br/ojs/index.php/ImagensEduc/article/view/20238/pdf>

<https://www.ifch.unicamp.br/eha/atas/2017/Marcia%20Helena%20Girardi%20Piva.pdf>

<https://jornal.usp.br/artigos/frans-krajcberg-e-a-arte-denuncia-a-favor-da-conservacao-do-bioma-amazonia/>

<https://www.youtube.com/watch?v=shRcO3aJ4GE>

KRENAK, Ailton. A vida não é útil.
Companhia das Letras, 2020.





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