

An Inclusive Approach to Adult Climate Education

OUR FUTURE TOGETHER



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What is the Come together project about?

by Sara Calcagnini

The Project addresses the need for a socially inclusive climate change education in informal settings by training adult education professionals (museums/science centres educators, scientists, NGOs social workers) in a listening and dialogue approach, and by developing, testing and sharing innovative methods and practices. It aims at empowering disadvantaged adults with the idea that their voice is relevant in the climate change issues, and at fostering awareness and participation.

Thanks the priorities set by the European Commission in the calls for Erasmus + Adult education projects partners have been able to interpret scientific issues as social facts.

The project partners are:

- National Museum of Science and Technology Leonardo da Vinci, Milan, Italy (coordinator)
- Universcience, Paris, France
- ScienceCenter-Network, Vienna, Austria
- Ethnological Museum, Berlin, Germany
- Slovene Ethnographic Museum, Ljubljana, Slovenia

The project is based on co-creation processes between educators, scientists and NGO professionals aiming at connecting social inclusion and climate change issues.

Through a co-creation process with different actors, the project developed and tested:

- 5 national hubs in 5 partners countries (Austria, France, Germany, Italy, Slovenia) as innovative learning spaces, working at local and international level with stakeholders in social inclusion and climate change education
- 1 international and 5 national trainings for educators, scientists, NGO social workers
- 1 artistic formats for social inclusion and 5 educational activities tested with disadvantaged adults, educators and scientists.

In this context, the inclusion of marginalized voices is seen as a way to interpret the issue of climate change not as a technical-scientific topic but as a social issue with technical-scientific aspects, emphasizing the connection with social justice and the value of the knowledge, ideas and feelings of non-experts in dialogue with researchers working on the issues.

Co-creation is seen as a way to develop shared knowledge among third sector educators, museum educators and researchers, in order to develop training and dialogue activities that are truly inclusive.

Learning from the practice, sharing the doubts and the ideas with the different actors and the project partners has been an exciting learning journey for all the educators who are the authors of this booklet but also for all the actors involve in the co-creation process and the participants to the training and educational activities.

The end of the project is for all us the start of the journey that we need to make together. We hope that this Booklet can be a stimulus for new learning journey for all the readers.

COORDINATOR

PARTNERS

**MUSEO
NAZIONALE
SCIENZA
E TECNOLOGIA
LEONARDO
DA VINCI**



Ethnologisches Museum
Staatliche Museen zu Berlin

Verein
**ScienceCenter
NETZWERK**



**SLOVENSKI
ETNOGRAFSKI
MUZEJ**

universcience

Our future together: How to read the booklet

by Tina Palaić

The publication is a comprehensive resource created to equip professionals with the knowledge and tools necessary for engaging socially marginalized adults in climate and environmental education.

It is not a theoretical text, although you will find important references for further use, but a document with practical insights designed to bridge the gap between climate science communication and social inclusion.

This booklet is a pivotal output of the Come Together project, compiling three essential documents that address the challenges and opportunities of inclusive adult education on environmental issues. The motivation behind its creation stems from the urgent need to ensure that climate action and education are inclusive and participatory, empowering those who are often overlooked in mainstream science communication.

The booklet integrates the following three components:

- 1. Inclusion, Environment, Science Education – Guiding Principles:** This section offers learnings and reflections to foster the social inclusion of vulnerable adults in science communication on climate and environment. These principles are rooted in informed practices, reflecting real-world challenges, tensions, and moments of insight gleaned from project activities across diverse contexts. It guides users from basic principles—such as inclusivity, participation, and co-creation—all the way to encouraging action.
- 2. Inclusion, Environment, Science Education - Training Guide:** This document provides professionals support in the development of socially inclusive educational activities on climate and environment. You will find the tools that could help you with taking emotions into account, making topics relevant, encouraging action, and co-creating activities so that they are truly inclusive. The training modules can be reproduced entirely or partially by those seeking to facilitate effective inclusive educational activities or to implement key elements into their own work.
- 3. Inclusion, Environment, Science Education – Activity Toolkit:** This practical component offers inspiring activities with inclusive approaches to environmental education for disadvantaged adults. Rather than prescriptive lessons, the activity sheets are a curated source of inspiration. They provide a concrete model, empowering readers to select, adapt, and refine the activities to maximize relevance and impact for their specific audience, resources, and goals.

Authorship and Target Audience

The content of this booklet is the result of collaborative efforts and real-world experiences generated through the activities and partnerships of the Come Together project. The principles and practices articulated within reflect what was found to be helpful, and equally, what needed to change, ensuring the final product is grounded in empirical insights. The authorship of the publication belongs to the cooperating experts from the partner institutions, and the content was also significantly enriched and co-created by the members of the local learning hubs.

This publication is designed for a broad spectrum of professionals engaged in promoting social inclusion through learning. It is primarily aimed at facilitators, educators, museum professionals, NGO workers, scientists, and communicators—anyone actively involved in inclusive learning

processes centered around climate and environmental issues. Specifically, it targets individuals and institutions in science education, museums, and others whose core objective is the development of truly inclusive activities through co-creation processes with adult learners.

How to use this publication?

This publication is not structured as a linear document meant to be followed sequentially. Instead, it is presented as a rich collection of guiding practices that readers are encouraged to explore and adapt to their specific contexts and needs. The diversity of various target audiences and contexts is reflected in this adaptable structure.

Readers can use the booklet to:

1. Reflect on their current educational approaches and assumptions.
2. Support training processes for educators and communicators who wish to adopt inclusive climate education methodologies.
3. Plan or adjust existing inclusive learning activities for adults.
4. Co-create formats and learning spaces directly with their audience, fostering genuine partnerships.

By offering both foundational principles and practical tools, the booklet serves as a valuable companion for anyone committed to making climate education accessible, relevant,

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Inspiring activities with inclusive approaches to environmental education for disadvantaged adults

edited by Fabrizio Stavola, Sara Calcagnini

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Inclusion, Environment, Science Education

GUIDING PRINCIPLES

Learnings and reflections to foster social inclusion of vulnerable adults in science communication on climate and environment developed in the Come Together project

1. Introduction

This scaffolding document shares key insights from the Come Together project, which brought together educators, scientists, community actors and adult learners in order to co-create inclusive educational activities on environmental and climate issues. It reflects the collaborative process of designing science education formats about climate and environment, specifically tailored to adults from various vulnerable communities across five European cities, namely Berlin, Ljubljana, Milan, Paris and Vienna.

Considering the diversity of the project partners and the wide variety of target audiences, stakeholders and educators involved, the outcomes and practices developed in the national hubs differ across contexts. Some aspects were central to one hub, but less relevant in others. Despite this variety, however, a set of guiding practices emerged from the shared practices across all hubs – principles that proved important to help all partners move towards a socially more inclusive science education on environmental and climate issues.

These principles form the basis of this scaffolding document and are to be understood as guidelines to reflect on own practices and to plan socially more inclusive activities – with and for underserved adult target groups, such as, for example, Roma communities, homeless people, women with no formal school degree, etc. With this document, we seek to show how social inclusion, adult learning, and climate/environmental education intersect in practice. Therefore, the guiding principles highlight successful means towards more inclusive activities and provide insights into how to make science education more relevant, participatory and empowering for adults facing complex social and environmental realities.

Rather than offering a step-by-step instruction, this document serves as a scaffold – a supporting structure to guide reflection, inspire adaptation and foster the development of inclusive science education activities. The scaffolding document is not meant to be prescriptive but should be understood as a practical resource to help shape local approaches in ways that are responsive to the needs and realities of specific adult audiences.

What distinguishes this document is that its content is grounded in practice and discussions among the project partners and the participants of their respective hubs.

The guiding principles are derived from partner's practical experiences, expertise or existing literature. Experiences in the hubs are based on observations of communities, discussions with local actors and learning through practice. The guidelines combine the shared experiences of the Come Together partners, the members of the national hubs and the adults who participated in the co-created formats.

2. Learning with and from local hubs of experts

DEFINING AND FORMING LOCAL HUBS

In order to bring different approaches, ways of thinking and methods for science education together, each partner country established local hubs.

The hubs center around reflections of their own approaches towards inclusive science engagement activities on climate and environmental issues.

Yet, what exactly is a hub?

When thinking of hubs, we generally refer to a central point that connects or coordinates multiple elements, often serving as a focal point for activity, communication or distribution. However, the specific understanding of hubs depends on the context. In the context of Come Together as well as in many participatory and experimental public participation approaches, hubs are defined to bring multiple people, stakeholders or communities together to work on a common goal. People within such hubs bring different perspectives to the table, which might sometimes be reinforcing or juxtaposing each other but could also challenge or contradict each other. Hubs are therefore inevitably dynamic, constantly developing and evolving.

Yet, hub members work together on a shared topic and enrich the outcomes through the inherent diversity in perspectives mentioned above.

In the process of developing a hub, we invited to and carried out various hub meetings in which the community could exchange ideas, opinions and share their knowledge. In these hub meetings, the organizing project partners gave information on the Come together project, guided the discussion and provided the space to enable hub members to express their thought processes. In order to allow for a dynamic process of collaboration, different formats were incorporated. For instance, group discussions, individual reflections, discussion games, but also creative elements like imagination exercises or hands-on Tinkering elements were used to kickstart the co-creation process of science education formats.

THE OBJECTIVES OF THE LOCAL HUBS

As to the Come Together project partners, we invited various groups of people to join our local hubs and to participate in the process of co-creation.

Members of these local hubs were, for example:

- science facilitators and educators
- social workers with access to target audience
- members of the respective target audiences (underserved adult communities)
- scientist
- indigenous experts
- local experts on climate communications
- activists
- artists

- local government employees
- other stakeholders with interest in climate issues and inclusion of local communities.

In general, the hub meetings aimed to define principles and characteristics of inclusive science communication on climate and environmental issues. Over the course of these meetings, individual needs and different local requirements were identified.

Upon reflection of the Come Together project partners, the specific outcomes of the hub meetings informed the design of a) training modules targeted at facilitators and educators, b) general guiding principles for activity development and facilitation (see chapter 3), as well as c) the co-creation processes done at a later stage in the project.

DIVERGING PERSPECTIVES AND INDIVIDUALISED PROCESSES

Despite this attempt to establish a common context, however, the individual processes within each hub largely differed from each other. Given that each local hub and their respective members had diverging interests, values, ideas and methodological approaches, it would have been difficult to generalise and unify these different discourses. Furthermore, the discussions and methods in the hubs were rooted in real-world contexts and driven by different needs, affordances and necessities their members. In order to acknowledge this multi-dimensionality, individualising the processes and accepting the differences between all hubs was an essential step in the project.

An important guideline for the project partners was the approach to value all participants, to reflect on own expectations and to be prepared to let go of them in the process.

In short, "the people who are here now are the right people! They want to work with us, and we want to work with them!" Even if it might seem obvious, this assumption was crucial for managing expectations within the hubs and to navigate emerging discussions.

Based on these discussions, the project partners then derived key principles and characteristics of inclusive science communication.

LOCAL HUBS AND THEIR ROLE IN CO-CREATION PROCESSES

Following the hub meetings, selected members of each hub participated in a co-creation process dedicated to the development of inclusive science engagement activities on climate and environmental issues.

At this point it is essential to establish a common understanding of co-creation, since this is yet another term with multiple meanings, depending on the context. In general, co-creation refers to a collaborative process in which different (groups of) people work together in order to develop a product, service, idea or solution to a specific issue. Their different perspectives, experiences, and areas of expertise are a vital part of the process. Further pivotal parts are shared ownership, equal participation and mutual learning, making co-creation processes an important tool in inclusive science communication.

Referring back to the five local hubs in this project, we used co-creation processes to enhance discussion and reflection on inclusive science education for vulnerable adults focussing on environmental and climate issues. While the hub meetings were highly dynamic and open in their progress, the co-creation process was adapted to the local context and the respective target

groups of underserved adults in each partner country. Nonetheless, the reflections and discussions from the hub meetings informed the co-creation processes as well.

IMPLICATIONS FOR INCLUSIVE PRACTICES

As we have learned through working with local hubs, acknowledging different realities and accepting that there might be difficulties in including all intended audiences in the hubs is an important part of the process. Focussing on the participants and their individual perspectives and needs rather than trying to adjust them to a ready-made and thoroughly planned process is a key element in inclusive (science) communication.

In the following chapter, key principles of how to realise a community-centred, inclusive and action-driven approach will be discussed in more detail. While these principles have not been explicitly formulated in the hub meetings, they were derived from individual needs and discussions in these meetings and therein form a useful basis for facilitators and educators working with underserved adult communities.

Yet, this list of guiding principles is not to be understood as a complete framework or even checklist, but rather as source of inspiration reflecting the shared knowledge of our local Come Together hubs. As the name scaffolding document implies, the guiding principles should serve as a scaffold for the readers aiming to enhance social inclusion in their science education programs or their work with diverse communities in environmental education formats.

3. Core principles of inclusive climate education

The following section summarizes essential principles of inclusive climate education, as developed and reflected upon in the learning processes within the local hubs. Each principle is introduced and contextualized shortly and underlined with examples as well as practical implications and reflection questions for individual activity adaptation. Further, many principles can be linked to concrete training modules and reflect the methods co-designed and used in the Come Together project (see chapter 2).

Moreover, these guidelines are the result of the co-creation processes undertaken in the local hubs and were elaborated on the basis of shared knowledge and experiences from all project partners. The selection of guidelines and practical implications has directly evolved from the hubs and has further been informed by preceding projects and partners' expertise on inclusion. In other words, the following principles share community-orientation and have been derived from practical work with the communities rather than from a merely theoretical point of view.

PUT THE COMMUNITY IN THE CENTER

If we re-consider the overarching objective to define practical guidelines for inclusive science communication formats on climate and environmental issues, one assumption is central to all these principles; the target communities, i.e. groups of underserved adults, are to be the center of the activities rather than the project's objectives, organizers' expectations or pre-defined learning outcomes. Hence, derived from the individual learning processes in the local hubs, we argue that as project organizers we need to be prepared to always put the community in the center and to accept that the control of the process lies with them and not with us as organizers.

Based on this objective, we acknowledge the heterogeneity of target audiences in the local hubs as an important factor in the compilation of the following guidelines (see chapter 2). Furthermore, we acknowledge the challenge to find common principles when working with substantially different audiences with diverse individual needs. Some principles might have been essential to some communities, while other principles were inapplicable in these contexts. Hence, the selection of principles is to be seen as a set of practical insights open for adaptation rather than a rigid framework. We believe that this increases the practicability of this document, as it can be used in different context of both informal and formal educational programs.

3.1 Start with the community

DESCRIPTION

"Start with the community" means to fully and directly involve the people who will be affected by the activities you plan to implement. Include members of the community in making decisions and carrying out activities from the start, which makes the activity seem more legitimate and builds a sense of trust and ownership.

This principle can be summarized as 'nothing about us without us'.

WHY IT IS IMPORTANT (IN CONTEXT OF SCIENCE EDUCATION WITH ADULTS FROM DISADVANTAGED COMMUNITIES)

Marginalized adults are often absent from climate change discussions and they rarely see themselves having a role in them. This undermines the vital importance of understanding the target audience – their needs, interests and potential, as well as the barriers they face when engaging in new activities. By collaborating with these target audiences from the start of the project, we can understand their circumstances better, build a level trust and, most critically, design relevant initiatives that will have their support. This approach significantly increases the likelihood that members of the community will participate, ensuring that the collaboration's outcomes are both meaningful and sustainable.

Start collaboration by partnering with organizations that are led by/closely work with the target community. These organizations are essential as they can not only provide crucial insights on the specific needs of the group but also serve as mediators between your organization and the community. Their direct contribution to both the design and the implementation of relevant activities is therefore indispensable.

EXAMPLES FROM OUR EXPERIENCES

Setting the topic of an activity based on communities' needs (Ljubljana):

Before starting the project, we contacted Roma representatives from three different communities in order to understand their interests, needs and preferences.

As participants in the hub and co-creation meetings, they significantly shaped the topic that was relevant to all three communities – food.

They contributed to both the design and the implementation of the activities: they operated as mediators between their communities and the museum; they helped to organize the activities and were responsible for inviting the members of their communities to participate; some of them also carried out selected activities which they are experts for. This contributed to a large number of participants and guaranteed the relevance of the content for target communities.

Collaborating with members of the community as mediators (Berlin):

Since the start of the project, SPK has closely collaborated with a Ukrainian museum educator who was actively involved from the beginning in developing and conducting the activities as well as in inviting Ukrainian groups. Thanks to her experience with Ukrainian groups in Ukraine and Germany, she served as a vital link to the community and could integrate her insights on which topics are relevant to them. The events were designed flexibly, allowing content to be adjusted during sessions in order to reflect participants' interests.

The activities also fostered exchange between recently arrived Ukrainian women and Southeast European refugee women having already lived in Berlin for a longer time. Together with "Südost Europa e.V.", who manage the intercultural garden, we initially organized a casual meet-up

to get to know each other. Sharing interests as well as personal experiences and expertise contributed to the choice of topics and their links to climate and environmental education. Thanks to the close involvement of the museum educator, the activities stayed relevant and mostly well-attended. We succeeded in building close and trusting relationships with both groups which remain strongly tied to the representatives as crucial links to SPK.

PRACTICAL TIPS FOR ACTIVITY DESIGN

- First, gather general information on the target community you want to work with.
- Ideally, contact local NGOs and community representatives even before applying for the project, or at least as soon as your project is confirmed.
- Before designing activities for the target community, work together with its representatives to clearly define the relevant content and the specific target group you want to involve (e.g., youth, parents, elderly, women, etc.).
- Instead of relying on preconceptions and making your own assumptions, ask representatives questions about the community and their needs.
- Don't approach the activity design with ready-made solutions. It's essential that community representatives contribute to both the design and the implementation of the activities.
- Give people the opportunity to express what they need and what they want to learn.

REFLECTION QUESTIONS FOR ACTIVITY DESIGN

- Can your activities help find solutions to the community's challenges or needs?
- Is your activity based on what the community wants to learn, rather than what you want to teach?

FURTHER READING

Simon, Nina (2010): The Participatory Museum. Accessible: www.participatorymuseum.org

Golding, Viv; Modest, Wayne (eds) (2013): Museums and Communities: Curators, Collections and Collaboration. London etc.: Bloomsbury.

Onciu, Bryony; Michelle L. Stefano; Hawke, Stephanie (eds) (2017): Engaging Heritage, Engaging Communities. Woodbridge: The Boydell Press.

3.2 Engage with the person before the topic

DESCRIPTION

Before you introduce content, build a human connection by showing genuine interest in the participants. Make it clear to yourself and the audience that the activity is about them, not about the teaching of specific content. This can spark interest in the interaction and allows for discussions and learning at eye level.

WHY IT IS IMPORTANT (IN CONTEXT OF SCIENCE EDUCATION WITH ADULTS FROM DISADVANTAGED COMMUNITIES)

Without some form of personal connection, it is difficult to create meaningful interaction. This matters especially in informal learning settings, where participants often meet the facilitators for the first time and may only join for very few activities. Long-term relationships would be ideal, but are often not feasible due to institutional or temporal constraints, for instance. Still, even a single encounter or interaction can help to build some trust and to leave a strong impression on the participants. Therefore, taking time at the beginning of an activity to build a relationship helps to overcome an initial distance.

Humans are social beings; often, it seems to have more impact who says something rather than what is being said. A respectful and positive relationship to the facilitation team and within the group can therefore make participants more open to climate and environmental issues, even when the topic itself might not seem interesting at first.

In addition, people usually want to be seen and treated with respect. If they feel acknowledged and taken seriously, they are more likely to participate actively and to feel comfortable to contribute their own perspectives.

Lastly, as facilitators, we need to be genuinely willing to connect with people; not only to improve the quality of the activity for participants, but also to make the encounter more enjoyable and meaningful for ourselves.

EXAMPLES FROM OUR EXPERIENCES

Show genuine interest in peoples' experiences (Vienna):

During an activity test in a park in Vienna on a hot summer day, a facilitator met two young men from Afghanistan – one open to a talk, the other one not.

By starting with questions about their lives, interests and everyday experiences, the facilitator built a personal connection that led to a more open exchange. Eventually, it became possible to not only talk about their passion for cars or life in Afghanistan, but also about climate change, summer heat and reforestation of Afghanistan as a possible solution to environmental issues. The facilitator noted that this reflection only became possible once a human connection was established, instead of introducing the topic directly.

Using poetry to connect with participants (Milan):

In Italy, we ran activities with homeless people in collaboration with a local NGO. The NGO educators used poems about the beauty of nature to connect participants' personal experience with climate change. Starting from a poem read by the facilitator and the analysis of the text, participants discussed their experience of nature when they were children in their home countries, their emotions, the family memories, the tree they were used to see, how they experienced life

in the family and in nature, etc. Thanks to the consolidated relation with the participants, the educator has been able to use the poem as a way to connect with participants' life, knowledge and emotions before connecting to the topic.

PRACTICAL TIPS FOR ACTIVITY DESIGN

- Use small icebreaker activities to get to know each other and to build some rapport.
- Include informal breaks in workshop plans to enable small talk and the informal exchange.
- Plan enough time at the beginning to establish a good connection.
- Show genuine curiosity and ask about participants' daily life, experiences, or interests before steering toward climate or environmental content.
- Try to signal openness and interest in your nonverbal communication. Establishing eye contact, a friendly tone and placing yourself in the middle of the group rather than standing at the front could be helpful.

REFLECTION QUESTIONS FOR ACTIVITY DESIGN

- When meeting a group for the first time, how do I make it clear that they matter more than the content I brought?
- Do I show respect and recognition for participants as people – beyond their role in the activity?
- Am I attentive to nonverbal cues (tone, body language, expressions) that affect how participants perceive me?
- In what ways do I personally benefit from these connections – does it make my work more enjoyable and meaningful?

3.3 Ensure local relevance

DESCRIPTION

The relevance of educational activities hinges on local implementation. This approach enables targeted responses to everyday issues, better outreach to specific audiences in their own environments and meaningful integration of their experiences. By grounding global challenges in local contexts, educational initiatives become more accessible, relatable and effective.

WHY IT IS IMPORTANT (IN CONTEXT OF SCIENCE EDUCATION WITH ADULTS FROM DISADVANTAGED COMMUNITIES)

When addressing climate and environmental issues, it is essential to connect these issues to peoples' everyday lives to make abstract concepts tangible. Use places and experiences familiar to target groups in order to link global challenges to peoples' lived realities to make them more relevant to them. Invite participants to bring in their own local perspectives to further strengthen personal and cultural identification with the topic.

Education and communication on climate and environmental issues often fails to resonate with adults from underserved communities, not due to a lack of interest, but because the topics and formats rarely connect to their everyday experiences. Locally grounded approaches are essential to make topics relevant; they allow educational activities to reflect the realities, concerns and knowledge of the people they aim to reach. Traditional institutions such as museums have historically been shaped by class-based hierarchies and often reinforce classist power dynamics. By creating spaces rooted in local contexts and emerging from lived experience of underserved adult communities, barriers can be lowered and power dynamics might be shifted.

In particular, the perspectives from those outside dominant power structures offer valuable insights that expand and challenge conventional knowledge. They are crucial for creating a more context-sensitive and grounded understanding of environmental challenges and for building a way of science education that is inclusive, engaging and meaningful.

Place-based and community-rooted knowledge such as indigenous ecological knowledge highlights the deep connections between culture, identity, memory and local environments. At the same time, working on a local and tangible scale helps participants to link abstract global issues to their immediate environment and to recognize possible steps to action. This does not only foster a sense of agency and motivation, but also supports a more hopeful perspective, which is psychologically essential for coping with the complexity, contradictions and emotional weight of the climate crisis. Therefore, local relevance becomes key to inclusive education and emotional resilience alike.

EXAMPLES FROM OUR EXPERIENCES

Using public green spaces as local environments (Berlin):

For the educational activities of the Ethnologisches Museum in Berlin, the intercultural garden Rosenduft and the Park am Gleisdreieck proved to be important local resources.

In informal conversations with our Bosnian and Ukrainian target groups, personal experiences of displacement were shared alongside cultural meanings of in the garden.

The act of cultivating familiar plants, for example, can create a sense of belonging and continuity for displaced individuals, transforming gardens into spaces where personal history intersects with environmental learning. In this example, the garden served as a safe space

for exchange and helped to initiate discussions about environmental and climate issues. Additionally, participants explored local insects and the significance of wildflower meadows during a park visit. Environmental ethnographic approaches and indigenous knowledge practices were employed by presenting a community garden project from Macucu, Colombia, highlighting global perspectives on participatory gardening and the dangers of monocultures. This way, the activities linked local experiences with global challenges, fostering social inclusion and environmental education relevance.

Roma settlements as local spaces for activities (Ljubljana):

The Slovene Ethnographic Museum decided to carry out all project activities in local settings where Roma communities live. This approach was chosen in order to better align with the target groups' current needs and interests. In one of these communities, the Roma had established an NGO focusing on collecting and using herbs based on their heritage. We used the herb garden as space for all the activities and included indigenous knowledge of this Roma community by inviting them to present their work to us. This way, the activity centered around the local community, valued their lived experiences and existing knowledge and made their contributions to environmental issues visible.

PRACTICAL TIPS FOR ACTIVITY DESIGN

- Get to know your target group and the environment which is familiar to them or to which they can easily relate to.
- Collaborate with local partners and communities.
- Use familiar, accessible places as learning spaces.
- Start with personal stories and everyday connections.
- Address local and global connection.
- Incorporate practical, hands-on activities which involve body movement or thinking/exploring topics with their hands.
- Build informal settings which enable light conversations whilst doing something together to get to know each other, for example, by preparing food together.

REFLECTION QUESTIONS FOR ACTIVITY DESIGN

- Does your activity give room to participants to discover their own local connection?
- How are local communities involved in the process? How are they given agency?
- How could you establish a connection to the everyday lives of your participants?

FURTHER READING

Stavola, Fabrizio; Calcagnini, Sara (2025): Inclusion, Environment, Science Education – Activity Toolkit. Chapter 2.12 A Garden Journey. Come Together.

Haraway, Donna J. (1988): Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies* 14 (3), S. 575–599.

Available online at <https://philpapers.org/archive/HARSKT.pdf>

Kimmerer, Robin Wall (2013): *Braiding Sweetgrass. Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. Minneapolis: Milkweed Editions.

3.4 Challenge ourselves

DESCRIPTION

As facilitators, educators and institutions, we must challenge our own assumptions, biases and agendas. This means being willing not only to teach, but also to learn and to reflect on what motives or goals we can set aside in order to open space for genuine co-creation with disadvantaged communities. Stepping out of our comfort zone helps us to engage more honestly and inclusively with our target audiences.

WHY IT IS IMPORTANT (IN CONTEXT OF SCIENCE EDUCATION WITH ADULTS FROM DISADVANTAGED COMMUNITIES)

This principle does not focus on the audience but on us, the science educators and facilitators. It asks educators and institutions to critically reflect on their own assumptions, agendas and comfort zones, in order to truly open space for co-creation and avoid reproducing the barriers we seek to overcome. If we want to genuinely put the community in the center, we must also be willing to put ourselves aside, which requires questioning our practices, motives and institutional goals. This shift creates room for participants' perspectives, knowledge and values in order to shape the activity, rather than the activity being framed only by our agendas.

Taking a learner's perspective helps us to gain new insights, to become more creative and develop ideas that enrich our own practice. It can be beneficial to try new and unusual methods and to assess how they perform or if they fail. Furthermore, it is important to maintain flexibility and openness to change. Apart from that, being open to working in unfamiliar contexts challenges us to leave behind the safety of established routines, and this very discomfort can lead to more inclusive and meaningful approaches.

EXAMPLES FROM OUR EXPERIENCES

Learn from and reflect on exploration (Milan):

The team from MUST began exploring new ways to engage with vulnerable communities and visited a day center for homeless people in order to understand how science activities might fit into this context. What they encountered was surprising and contrary to their assumptions. The center already offered a wide range of culturally rich activities, like poetry activities. This fostered meaningful social interactions and helped to overcome even major language barriers. Equally striking was the willingness of homeless participants to express their views on broad societal issues, moving the discussion far beyond immediate basic needs.

This encounter triggered a reflection within the MUST team. Their usual approach often placed scientific content at the center. This experience challenged their ingrained hierarchies of knowledge, showing that what counts as expertise in a museum is not always the most relevant in the social context of the day center. It also led the team to reconsider the aim of their activities. Rather than transmitting content, they could provide platforms for dialogue, exchange, and shared reflection – where science and technology are woven together with social justice, emotions, and lived experience.

Being challenged by feedback (Vienna):

During the co-creation process, the SCN team developed a prototype of an activity on climate data visualization. Trainers who regularly worked with young, unemployed and low-educated women from a career guidance program had emphasized that their participants often disliked engaging with numbers and data. The SCN team was eager to discuss and test diverse possible activities with 6 invited women from the program to see their preferences.

The participants clearly expressed that they did not want to do the data activity.

This feedback directly challenged the team's assumptions and their intention to teach data skills. The workshop program was therefore further developed according to the wishes of the target group. The very high engagement of other participants during the rollout of the activities provided evidence that letting go of their own agenda successfully improved the content and relevance for the audience.

PRACTICAL TIPS FOR ACTIVITY DESIGN

- Spend a lot of time watching, listening and discussing.
- When working with an unfamiliar community, start by learning from them and others who have already worked with them, before thinking about what you want to provide.
- Don't look at the topic in technical or scientific terms, but use it to enhance the knowledge and skills of the people you want to involve.
- Be open to trying new methods, even if they challenge your routines, and assess what works or needs adapting.

REFLECTION QUESTIONS FOR ACTIVITY DESIGN

- In which contexts does the audience freely express their knowledge and values?
How are these different from my usual institutional settings?
- What are the assumptions, goals or motives I bring to this project?
Which of them could I set aside to open more space for co-creation?
- How much do I truly see myself as a learner alongside the audience, not just as a teacher?
- Am I willing to enter unfamiliar contexts and to adapt my practice, even when it feels uncomfortable or uncertain?

FURTHER READING

Simon, Nina (2010): The Participatory Museum. Online: <https://participatorymuseum.org/read>

Saito, Kohei Saito (2020): Capital in the Anthropocene Cambridge: Cambridge University Press.

3.5 Listen actively

DESCRIPTION

Listen actively to your audience and create enough space in educational activities for everyone to share personal thoughts, experiences, and knowledge. Welcome different perspectives without judgment to build trust and enable mutual reflection – even if they challenge your assumptions.

WHY IT IS IMPORTANT (IN CONTEXT OF SCIENCE EDUCATION WITH ADULTS FROM DISADVANTAGED COMMUNITIES)

In climate and environmental education, discussions often trigger feelings of guilt, defensiveness or moral judgment of peoples' lifestyles, even though individuals and disadvantaged communities are certainly not the cause of the environmental crisis. This can reinforce power imbalances or a sense of exclusion. It can also result in avoidance or disengagement with the topic.

Active listening helps counter these dynamics, but only if shared content is valued as well. If people feel respected for their opinion, hierarchies can be reduced. This further creates trust, which is an important baseline for discussions at eye level and enables reflection of one's own point of view on what should be practiced by participants and facilitators. Listening to each other can further reveal unexpected connections between participants and the topic as well as reasons why it matters to them.

Practically, active listening is also a good learning tool for facilitators and trainers. It uncovers what truly concerns the audience, allowing to adapt content and emphasize related aspects. Therefore, listening to the audience should already begin during the activity development.

EXAMPLES FROM OUR EXPERIENCES

Learning through listening and peer-exchange (Vienna):

In a co-creation meeting, six people from the target group, young women from a career guidance program, were invited to test several prototype activities. In the reflection sessions afterward, the participants highlighted how much they valued activities where they could share their own opinions. What surprised us was that they also rated these activities very highly in terms of learning outcomes. They explained that much of their learning came from listening to each other, exchanging perspectives, and discussing their views. This peer-to-peer exchange helped them understand certain issues better and discover new perspectives. Based on this experience, the final activities for the target group were designed with elements where sharing experiences or knowledge and listening to each other is included.

Listening first in prison workshops (Paris):

In France, a session with prisoners was devoted entirely to listening to their knowledge, feelings and desires in relation to climate change. After explaining the context and how important it was for us to hear what they had to say, we began by creating a collective mind map where everyone could say what climate change meant to them.

The participants then shared their vision of the future in relation to climate issues. We formed small groups to facilitate discussion and listening. We also asked them about their emotions related to these issues, their experiences, what worried them, and what they would like to know more about. This allowed us to invite a researcher to a second session to answer the questions that interested them most.

PRACTICAL TIPS FOR ACTIVITY DESIGN

- Include specific time in your activities, where participants share their thoughts and the others (including the facilitators) are active listeners.
- Make clear, that opinions, personal stories and perspectives are welcome to be shared and should be valued by everybody. They can be discussed respectfully, but should not be judged as wrong or bad.
- Don't only think of what you want to teach as facilitator. Be curious and think of what you want to learn from your audience.
- Allow yourself some flexibility in consecutive activities in order to be able to react to what you have heard from the audience adequately.
- Reflect after activities how much you have been listening.

REFLECTION QUESTIONS FOR ACTIVITY DESIGN

- Are you really interested in your audience? What would you like to know from them?
- Do all participants get a fair chance to speak in your activity and are their perspectives genuinely valued by you and the group?
- Is the extent of teaching and learning in a good balance?
- How would you react to highly problematic thoughts from the audience?

FURTHER READING

Stavola, Fabrizio; Calcagnini, Sara (2025): Inclusion, Environment, Science Education – Activity Toolkit. Chapter 2.10 Climate Collages. Come Together.

Le Floch, Fannie; Oualian, Catherine (2025): Inclusion, Environment, Science Education – Training Guide. Chapter IV.1 Expressing views on climate-related scenarios: Discussion game. Come Together.

Le Floch, Fannie; Oualian, Catherine (2025): Inclusion, Environment, Science Education – Training Guide. Chapter IV Training modules Dialogue Methods. Come Together.

3.6 Create emotional safety

DESCRIPTION

Environmental and climate issues often entail emotional responses from participants – positive and negative. Creating a supportive environment and accepting all emotions that arise during an activity is important to make participants feel respected and heard, which encourages open dialog and deeper engagement with the topic. Finding a way to re-frame negative emotions helps to drive positive actions.

WHY IT IS IMPORTANT (IN CONTEXT OF SCIENCE EDUCATION WITH ADULTS FROM DISADVANTAGED COMMUNITIES)

Since human actions and moral decisions are not only based on rationale, but mostly on emotions, they are an important driver of the discussion on climate and environmental issues. When working on issues loaded with different – positive and negative – emotions, it is important to cater for all emotions and to establish a supportive atmosphere where those can be shared without shame (if the participants want that). In particular, negative emotions such as fear, aggression or hopelessness can feel destructive, as they have an inhibiting effect on participants. Accepting these emotions and providing a space to share them is a first step to re-frame these emotions into productive actions. A safe environment makes it possible to discuss difficult topics, to acknowledge strong emotions and to build trust between educators and participants.

Apart from negative emotions caused by the topic of climate change, we have to consider that some individuals carry individual emotional burdens and that trauma could be triggered as part of workshops centered around communities' needs and lived experiences.

Again, establishing a good rapport at the beginning and showing that all emotions are okay to be expressed in the workshop helps to create emotional safety. Furthermore, providing adults with the choice to leave anytime or to take a break, might help to establish a safe environment. However, it should be made explicit that facilitators can usually not provide therapeutic help and are not professionals in dealing with trauma. Having a list of helplines ready to share with participants can be helpful for them to seek professional help if they feel in need of that.

EXAMPLES FROM OUR EXPERIENCES

Imagination exercise to evoke climate emotions (Vienna):

In a workshop with young women with limited access to education, SCN facilitated an imagination exercise to evoke images associated with climate change. Which feelings arise when thinking about the topics? What do they see? The participants were then asked to visualize their imaginations and to build a collage with these climate images.

Emotions are a special focus in this exercise and they are catered for in two ways: before starting the imagination exercise, there was a disclaimer that negative emotions or intense reactions could occur. Participants could skip this activity or stop participating at any point, if they felt uncomfortable with it.

The focus of the imagination is on emotions, and all arising emotions should be visualized and noted down. In the final collages, particularly negative emotions are discussed, aiming to find ways to find concrete, productive actions that can be driven by this emotion in a positive way.

Connecting to everyday realities of communities (Berlin):

When working with underserved adults, it is helpful to familiarize yourself with the challenges they face in everyday life. In Germany, we therefore organized an informal meeting at the "Intercultural Community Garden Rosenduft" before we started conducting the actual activities with Ukrainian and Bosnian refugee women. Despite not having an agenda, the meeting was an opportunity to get to know each other, the garden, its program and its trauma support for refugee women from South-eastern Europe.

Apart from conducting climate and environmental education activities, it was important for us to create an atmosphere in which the women felt safe enough to share their experiences of displacement, as well as their hopes and wishes for their near future in Berlin.

They also shared feelings of grief and pain about having to leave their homeland and loved ones behind, as well as their desire to return home. As a link to climate and sustainability issues, stories about cultivating local plant species from one's homeland in Berlin demonstrated how a connection to home can be established in a foreign place. For that reason, topics around plants and green spaces also became one of the main focuses during our activities.

The shared experience of the participants and the safety to share any emotions formed an important link to the topic and made sure that participants could take positive actions based on negative emotions.

PRACTICAL TIPS FOR ACTIVITY DESIGN

- Set clear group agreements that encourage respect, confidentiality, and listening.
- Provide options for participation (e.g., speaking, writing, drawing) so participants can choose what feels safe.
- Be attentive to signs of discomfort and offer breaks or alternative ways to engage.
- Use facilitation methods that balance openness with boundaries, avoiding discussions that may overwhelm participants.

REFLECTION QUESTIONS FOR ACTIVITY DESIGN

- How do I signal to participants that their feelings and experiences will be respected?
- What measures do I take to prevent re-traumatization or emotional overload during my activities?
- Do participants have real choices in how and when they contribute?
- How can I build trust step by step, rather than expecting it immediately?

FURTHER READING

Le Floch, Fannie; Oualian, Catherine (2025): Inclusion, Environment, Science Education – Training Guide. Chapter IV.4 Taking emotions into account: Stinky fish. Come Together.

Le Floch, Fannie; Oualian, Catherine (2025): Inclusion, Environment, Science Education – Training Guide. Chapter IV.5 Lecture about emotions. Come Together.

Le Floch, Fannie; Oualian, Catherine (2025): Inclusion, Environment, Science Education – Training Guide. Chapter VI.1 Deep listening: tell your climate story. Come Together.

Stavola, Fabrizio; Calcagnini, Sara (2025): Inclusion, Environment, Science Education – Activity Toolkit. Chapter 2.10 Climate Collages. Come Together.

A tool to test: A carbon handprint measures positive actions to reduce climate change impacts, going beyond personal carbon footprints. If such actions are multiplied, they can outweigh one's footprint.

<https://go-positive.co.uk/what-is-a-carbon-handprint>

3.7 Recognize inequalities

DESCRIPTION

Take power imbalances into account when designing and conducting activities and be mindful of intersectional inequalities. Ensure participation is possible for everyone, while also openly acknowledging disparities – both between facilitators and participants and within the audience itself – to avoid reproducing them involuntarily in the activity

WHY IT IS IMPORTANT (IN CONTEXT OF SCIENCE EDUCATION WITH ADULTS FROM DISADVANTAGED COMMUNITIES)

Climate change affects all social groups, but it impacts the socially vulnerable more. These groups generally have fewer economic, political and informational resources to cope with the impacts of the climate crisis. Their housing is typically less resilient to extreme weather events like heatwaves, floods and fires, and their access to healthcare often is limited. Additionally, their weaker economic standing makes it harder for them to take part in adaptation activities that require financial investment. This is precisely why it is crucial to involve marginalized communities in efforts to adapt to the climate crisis and to strengthen their voice in policy – and decision-making processes.

However, many climate education activities have been designed for dominant groups and focus on reducing greenhouse gases. This discourse can generate feelings of anger among audiences who contribute the least to global warming. Denying the inequalities faced by marginalized groups can also create additional symbolic violence.

In order for action to be effective, it must acknowledge inequality through the concept of intersectionality on multiple levels. Many factors such as race, class, education, gender and economic resources result in combined forms of discrimination and privilege.

In practice, this requires recognizing these dynamics not only in society at large but also in the activity room – between facilitators and participants and within the audience – and making them visible in a respectful way. Doing so builds trust, shows awareness of participants' realities, and offers a systemic rather than an individual-centered vision.

Crucially, acknowledging inequalities must go hand in hand while still recognizing participants' agency. Otherwise activities risk reproducing the very imbalances they seek to address.

EXAMPLES FROM OUR EXPERIENCES

Enable participation by providing childcare (Ljubljana):

When designing activities for Roma communities, we also took into account the intersectionality of marginalization, which was also pointed out by Roma representatives co-designing the activities. Therefore, alongside the main activities, we organized parallel programs for children to enable Roma women, who often carry the primary responsibility for childcare, to participate as well.

Providing tools for affordable eco-cosmetics (Paris):

A hub member from the French team reported on an activity focused on producing eco-friendly household cleaning products. The target audience, residents of a low-income neighborhood, could not afford expensive cosmetics or the one-time investment in equipment needed to make them themselves. The activity was therefore designed to both provide the necessary equipment and to share the knowledge of how to use it. This combination allowed participants to continue

producing their own sustainable products after the workshop, making the practice affordable and empowering in the long term.

Acknowledging inequalities in restricted contexts (Paris):

During a science education initiative with prisoners, some participants wanted to take action to promote recycling and local food. However, this was not feasible within the prison system due to existing decision-making structures and restrictions.

As a facilitator, openly acknowledging these limitations and the unfairness of the situation helped to maintain a connection with the audience and show understanding of their realities – even when no immediate solution was possible.

PRACTICAL TIPS FOR ACTIVITY DESIGN

- Conduct activities in familiar environments where members of the target community feel empowered because they are at ease and relaxed.
- Focus the activity less on what participants don't know and more on the abilities and knowledge they already bring, so they feel empowered as a community.
- Regulate speaking time and offer diverse modes of participation so that power imbalances within the group are addressed rather than reproduced.
- Pay close attention to what participants understand and adapt your language and content accordingly. Reduce language barriers and avoid assuming high prior knowledge.
- When presenting adaptation or mitigation strategies, ensure they are realistically achievable by your audience. Avoid glorifying consumption restraint in ways that stigmatize economic disadvantage.

REFLECTION QUESTIONS FOR ACTIVITY DESIGN

- Is your planned activity equally accessible for every member of your target community (with regards to intersectionality)?
- Am I unintentionally reinforcing hierarchies through my facilitation choices – or opening space for more equal exchange?
- Do I acknowledge the audience's lived realities (economic, social, cultural) while also recognizing their agency and contributions?
- Have I created opportunities for participants to influence the flow of the activity, or is it still shaped mainly by institutional goals?

FURTHER READING

Le Floch, Fannie; Oualian, Catherine (2025): Inclusion, Environment, Science Education – Training Guide. Chapter V.2 Lecture about Inclusion. Come Together.

Le Floch, Fannie; Oualian, Catherine (2025): Inclusion, Environment, Science Education – Training Guide. Chapter V.3 Approaches for inclusion: Case study. Come Together.

4. Action-oriented principles

Apart from community-centeredness, inclusive science communication on climate and environmental topics can be reached through an action-driven approach.

The strategies which were mentioned most often and seemed most important across all hubs are presented in the following section and should – again – be seen as an additional source of inspiration for inclusive practices rather than a rigid framework.

4.1 Action drives believes

DESCRIPTION

Encouraging people to act is a powerful way to build engagement.

Taking actions – even in small ways – helps to overcome feelings of helplessness and strengthens the belief that change is possible. One action often triggers another, leading to deeper commitment and a stronger sense of agency.

WHY IT IS IMPORTANT (IN CONTEXT OF SCIENCE EDUCATION WITH ADULTS FROM DISADVANTAGED COMMUNITIES)

Taking action helps people to move beyond feelings of helplessness in the face of climate and environmental challenges. Research shows that acting is not only a way to cope with difficult themes but also a powerful driver of change in beliefs. Promoting action is particularly relevant for empowerment. As one action leads to another, engagement deepens and people develop a stronger sense of agency — knowing how to act. Small, practical steps taken together help participants realize that change is possible, both individually and collectively.

Disadvantaged groups are often seen as passive or unable to act, but this is misleading. Action demonstrates capability, respects their lived experiences, restores confidence and creates entry points for long-term engagement. For communities facing climate change and environmental challenges, starting with concrete steps during activities can transform attitudes. Action also reduces the distance between abstract global problems and everyday life.

EXAMPLES FROM OUR EXPERIENCES

Hands-on sustainability practices (Paris):

The workshop can invite participants to take action directly during the activity – by doing their own laundry with eco-friendly methods or planting a seasonal vegetable themselves (project shared by Planète Sciences as part of the French hubs). In other activities, they prepared and shared a local vegetarian meal. Starting to act during the activity reduced the gap between learning and doing, making sustainable practices concrete and easier to adopt afterwards.

Defining their own questions (Paris):

People living in precarious housing chose to discuss pollution in unhealthy homes with a scientist. The chosen topic – "How to cope with pollution when living in unhealthy housing?" – increased motivation, since it came from their own concerns (project shared by ATD Quart Monde, Universités Populaires, as part of the French hubs).

Family and community as levers (Paris):

Involving children often motivates parents to participate, driven by the wish to build a better future for them. The other way around, seniors bring valuable life experience and can be powerful voices in conversations about climate change.

In one workshop, seniors expressed the desire to repeat the activity with their grandchildren – for example, by building a weather station together.

PRACTICAL TIPS FOR ACTIVITY DESIGN

• Start to act during the activity

Practical demonstrations – such as cooking without meat or planting together – show that change is possible.

→ Reflection: Which practical demonstrations can be relevant to be reuse by the participants in their context?

• Avoid activities that your audience has already done many times and where there is nothing new to discover

This can give the impression that you are not offering activities that have real value.

For example, in the context of one of the hub members, making Tawashi sponges was too mundane/routine an activity to really make people want to participate or take action.

• Offer choice

Autonomy builds motivation. Let people choose the actions they want to try, especially when their daily lives allow little freedom.

→ Reflection: Do participants feel they can freely decide?

• Relay children or community as levers

Family and community ties often motivate action.

Activities for or with children can mobilize adults effectively.

• Imagine desirable futures

Invite participants to co-create visions of positive futures and then imagine together the actions that need to be done. Avoid focusing only on present conflicts. For example, we did creative writing workshops on how people will live in 30 years' time.

• Change the local environment

Suggest activities that form new behaviors natural and adapt to the communities' specific context.

For example, prepare eco-friendly washing powder together and highlight money saved.

• Provide long-term support

Offer continued guidance and resources for participants and their caregivers to sustain action and to maintain a sense of connection and community.

FURTHER READING

Le Floch, Fannie; Oualian, Catherine (2025): Inclusion, Environment, Science Education – Training Guide. Chapter IV.6 Encouraging action: Climate Handprint. Come Together.

A tool to test: A platform to identify actions according to their effort level and benefits:

www.nhm.ac.uk/take-part/find-your-climate-action.html?utm_source=short-url-gallery-20250327-ag&utm_medium=short-url&utm_campaign=fobp-gallery

De Meyer, Kris et al. (2021) "Transforming the stories we tell about climate change: from 'issue' to 'action'" Environmental Research Letters 16. DOI: 10.1088/1748-9326/abcd5a.

Keith, Lindsay; Griffiths, Wyn (2021): "SCENE: A novel model for engaging underserved and under-represented audiences in informal science learning activities." Research for All 5. DOI: 10.14324/RFA.05.2.09.

Watson, Claire (2019): How do we engage communities in climate action.

Online: www.marei.ie/wp-content/uploads/2020/07/How-do-we-Engage-Communities-in-Climate-Action-e-version.pdf

4.2 Avoid misplaced responsibility

DESCRIPTION

When working with vulnerable adults on issues of climate change it is important to be aware of real live circumstances of the audience and structural inequalities. Don't place the burden of change on those with limited resources or power and make that explicit to the group.

WHY IT IS IMPORTANT (IN CONTEXT OF SCIENCE EDUCATION WITH ADULTS FROM DISADVANTAGED COMMUNITIES)

Vulnerable groups are most affected by negative consequences of climate change and often lack resources or power to mitigate these effects, whereas those causing a lot of harmful effects do not yet feel severe consequences. Placing responsibility for change onto vulnerable adults therefore is neither fair nor does it lead to the input and actions necessary.

It is essential to acknowledge the realities and experiences of vulnerable adults with limited access to financial, sociopolitical or personal resources and not to place responsibility for changing systemic problems on these individuals.

Instead, activities should allow for participation in a way that is meaningful, showing vulnerable adults aspects where they can have an impact (on a small scale), for example by participating in discussions and by sharing their own experiences and opinions. Furthermore, learning activities should emphasize the systemic dimension of climate change, shifting the focus towards collective actions rather than individual responsibility. This approach should help to mitigate feelings of guilt of powerlessness and to show possibilities to address systemic inequalities, thereby enabling participation in a way relevant and meaningful to audiences.

EXAMPLES FROM OUR EXPERIENCES

Focus on systemic actions (Vienna):

In Austria, we conducted workshops using their discussion game „Klima-Blickwinkel“ (in English: “perspectives on climate change”). This discussion game contains various future scenarios imagining Vienna in 2040, with certain sociopolitical measures in place to drastically reduce CO₂ emissions. Participants rank different statements on a continuum ranging from probable to improbable, based on their own opinion.

In the discussion, the focus is on societal dimensions of climate change and it is made clear that the responsibility to resolving climate issues is not placed on vulnerable individuals.

Yet, their perspective is a valuable contribution to the discussion.

This is made explicit in a second step of the game, where the endpoints of the continuum are changed to desirable and undesirable, focusing on participants' personal wishes and requests they have to those in power. Responsibility for action is thereby clearly placed onto people in power and vulnerable adults are not blamed or lectured for their individual lifestyle choices, but their individual perspective and impact on the discussion is acknowledged.

Highlight collective action as driving force for societal change (Ljubljana):

In Slovenia, an activity to provide practical solutions to reduce food waste was developed.

Within the local hubs we carefully reflected on how we could design activities for marginalized groups that ensure that responsibility is not placed on those with limited resources.

In co-creation meetings and training sessions, we thought about what meaningful benefits these activities could bring to the everyday lives of Roma communities. As part of the educational activity, participants discussed various ways to reduce food waste in the household in order

to raise awareness that individuals already have valuable practical knowledge. By sharing this knowledge with one another, individual actions were taken together into collective actions, while the individual perspectives were heard and respected. Cultural heritage and common knowledge were acknowledged as way to show individuals that they can have a small impact, yet the need for collective action is highlighted. The responsibility to reduce food waste in society, however, is placed on those in power and not on the participants.

PRACTICAL TIPS FOR ACTIVITY DESIGN

- Focus on systemic solutions
- Don't blame the wrong individuals – make sure to place responsibility for climate action on those causing climate change rather than on those with limited power or resources.
- Include audiences' realities and lived experiences in the activities and acknowledge structural inequalities.
- Provide opportunities to share personal opinions and experiences.

REFLECTION QUESTIONS FOR ACTIVITY DESIGN

- To what extent does the activity reflect structural inequalities?
- Who is given responsibility for climate action in the activity? How does that reflect individual resources and (limited) power of the target audience?

FURTHER READING

Stavola, Fabrizio; Calcagnini, Sara (2025): Inclusion, Environment, Science Education – Activity Toolkit. Chapter 2.11 CO2 Experiments and Discussion Game. Come Together.

Inclusion, Environment, Science Education

TRAINING GUIDE

Support professionals in the development of socially inclusive educational activities on climate and environment developed in the Come Together project



I. Co-creation approach of the training

Co-creation methodology

The training course is the result of a collection of questions, needs and expertise within the hubs in each partner country. Gathered information made it possible to identify the essential issues and skills that are required to design and facilitate educational activities on climate and environmental issues for excluded adults.

Co-creation steps

- **April-June 2024:** building hubs and gathering their questions, needs and expertise to develop inclusive activities about environmental issues for vulnerable adults
- **July – October 2024:** design of training modules
- **October 2024:** first online pilot session of the training was first conducted with 25 participants coming from each partner country.
- **January-April 2025:** feedback from this session allowed us to adapt the training for national sessions and according to the profile of the participants and the local context.
- **April-November 2025:** learnings and adaptations, in particular face-to-face facilitation, of the training are documented and published.

Authors

Based on knowledge and expertise from professionals of the hubs, each partner project developed one or several modules for the training, according to its own specialty.

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This training is co-constructed thanks to the expertise and commitment of the members of our exchange spaces - mediators, researchers, social actors - to whom we extend our sincere thanks.

II. The training in Practice

Objectives

Main objective: design and facilitate educational activities on climate and environmental issues for excluded adults.

The training provides:

- ready-to-use tools
- opportunities to reflect on one's practices and shift perspectives
- peer-to-peer exchanges between professionals from different disciplinary fields, to enrich knowledge and expertise

Target audience

- Professionals in science communication, in research and social actions, working with excluded publics and/or environmental issues.
- Professionals who simply want to develop skills on this topic.

Practical information

- 25 participants
- Duration: 14 hours
- **Formats tested and documented:** face-to-face and online

! However, we recommend a group of 8 to 15 participants per session to encourage plenary exchanges.

Suggested formats: 2 full days face-to-face vs. 4 half-days online

Facilitation advice

To ensure smooth facilitation, please keep in mind the following advice:

1. Facilitating the training with multiple trainers

- For groups of 25 participants: provide 2 trainers to share tasks such as presenting, managing small groups during exercises, welcoming latecomers, and preparing materials.

2. Prioritize small-group discussions

- Allow participants to express themselves comfortably and actively participate.
- Change the composition of subgroups regularly: encourage interaction and exchange among all participants.
- Engage participants actively: use quick polls, objects or tools to spark discussion, then ask participants to explain their responses.

3. Respect participants' rhythm

- Always allow for at least a 5-minute buffer.
- If running behind schedule, reduce lecture time rather than shortening breaks or interactive activities.
- Keep the agenda printed or visible on a separate screen at all times.
- If the training is not conducted in the participants' native language, they will usually need more time to respond – do not fear silence.

4. Repeat instructions

- Provide clear written instructions and repeat them verbally.
- This is crucial in breakout groups where the facilitator may not be present.
- Always check for clarification before opening breakout rooms or starting subgroup activities.

5. Connect participants to their practices and contexts

- Use concrete examples: real-life, tangible examples that participants can relate to.
- Encourage engagement with practice-oriented, specific questions tied to participants' professional experiences.
- Avoid general questions like "What are your comments?" Instead, ask:
 - "Have you encountered a similar experience?"
 - "How would you apply this to your context?"
- Reuse examples previously mentioned by other participants to highlight collective knowledge.
- The content should be applicable in various contexts—either through general advice/tools or through specific examples explained in a way that can be reused in other contexts.

6. Provide clear conclusions

- Discussions should lead to actionable insights. Provide clear summaries at the end.

Specificity to run the training

ONLINE

- Online time management is even more challenging due to technical issues, difficulty interrupting participants and the lack of a visible clock.
- Concentration online can be demanding. Plan breaks, half-days rather than full days, and different types of participation.

FACE TO FACE

- Arrange the room to facilitate plenary exchanges as well as small-group activities.
- Encourage interaction across different disciplinary profiles (science communication, research, social action).
- Use energizers and short reflection moments to maintain focus and group cohesion.
- Allow time for informal exchanges (coffee breaks, shared meals), which are crucial for building trust and cross-disciplinary collaboration.

Training program

This program corresponds to the **first training session**, delivered online for 25 participants in English, within an international context.

The training methodology is strongly based on:

1. **Hands-on exercises and peer learning** to apply the theoretical concepts covered.
2. **Self-reflection moments** where participants can step back and reflect on their own practices.
3. **Exchanges with experts** to enrich or complement specific modules. For example, experts in inclusion, climate and environmental issues, or dialogue methods.

Day 1

Morning	<ul style="list-style-type: none">• Welcome & Introduction• Icebreaker & Training program• Sharing projects among participants• Expressing views on climate related scenarios: Discussion game 
Afternoon	<ul style="list-style-type: none">• Choosing an angle to talk about climate• Lecture about inclusion• Approaches for inclusion: case studies• Collecting information about the audience• Conclusion of the first day

Day 2

Morning	<ul style="list-style-type: none">• Collective summary of day 1• Lecture about climate• Taking emotions into account: Stinky fish • Lecture about emotion and climate• Deep listening : tell your climate story• Encouraging action: Climate 
Afternoon	<ul style="list-style-type: none">• Diverse ways of explaining – tips to be understandable• Benefits of active listening : chain of questions• Dialogue: analysis of diverse methods• Evaluate your project• Individual action plan• Conclusion

The symbol  represents **ready-to-use tools**. These are training modules that can be conducted with professionals during a training or with an excluded audience during science education activity. All training modules mentioned in the program are described in the next section of this booklet, so they can be reused and adapted as turnkey activities.

Training materials

You can download blank templates for certain exercises here:
www.estim-mediation.fr/ressources-come-together

III. Training modules - Start & Conclude

1. Introduction

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to understand the content of the 2-day training and connect with other participants.



40 min – training program and icebreaker

SUMMARY

Participants get to know each other through rounds of exchanges in subgroups, one of which allows them to share their expectations for the training. The context, objectives, and 2-day program of the training are then presented to the participants.

PROCESS

5 min	Welcome The trainer greets participants to the sound of Come Together. Participants are invited to find a red or green object. This object will be used throughout the training as a quick, non-verbal way to express themselves, and to help manage individual speaking time.
5 min	Training organisation The trainer presents: <ul style="list-style-type: none">the main objectives of the project.the participation guidelines (use of microphone, speaking in English, available materials, listening to each other, active participation, and confidentiality of shared content).the other trainers or facilitators, as well as anyone with a role different from that of a participant.
10 min	Icebreaker 5 min - The trainer asks participants short questions (e.g. country of origin, professional profile). Participants vote with their object (green = yes, red = no). 5 min - Participants are then placed in pairs. Each pair chooses a song to add to the 2-day training playlist, which will be played during individual work, called self-reflection moments. When everyone returns together, the chosen songs are shared.
10 min	Training Content The trainer explains: <ul style="list-style-type: none">why the project exists.why this specific audience was chosen.why this training is proposed in this contextthe detailed 2-day program, including times dedicated to self-reflection.

10 min

Participants' Motivations

5 min - The trainer explains the exercise which aims to collect participants' motivations for the training.

1 min/person - Then, the trainer divides participants into subgroups (4-5 participants/group), where each participant shares their motivation through 2 questions:

- Why are you here today?
- What would make you say that it was worth coming to this training?

This helps collect expectations, adapt the training program if needed, and practice using the digital tool for the 2 days.

FACILITATION ADVICE

If the number of participants is odd, suggest that facilitators take part in the paired exercise.

Online

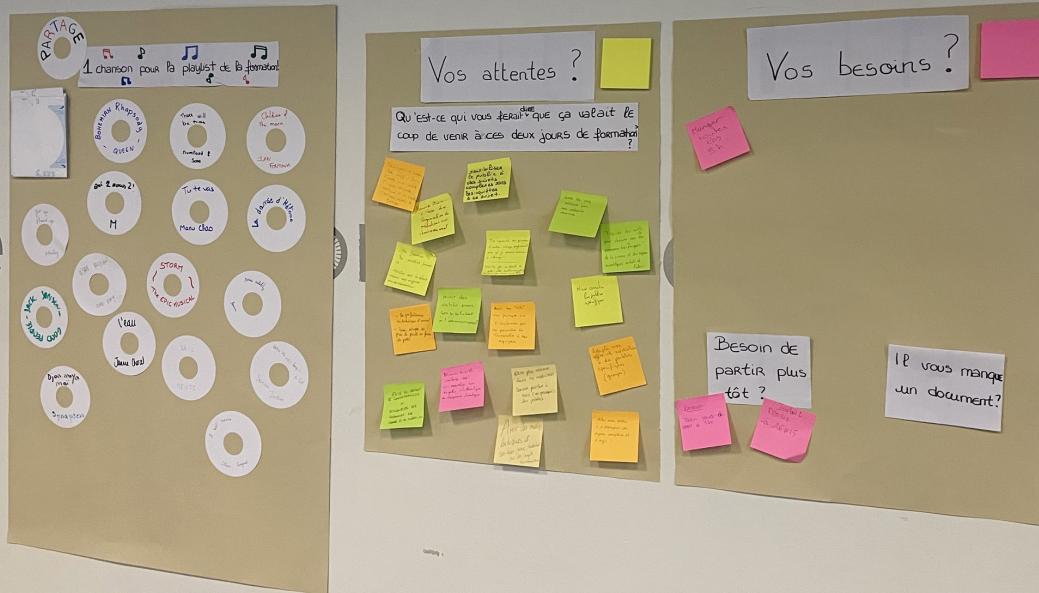
- Create breakout rooms so participants can exchange during exercises in pairs and subgroups during the icebreaker. Answers can be collected in the chat.
- Explain how the whiteboard works and how to create a sticky note during "Participants' motivation".

Face-to-face

- Invite participants, upon arrival, to write on a sticky note: their expectations for the training and a song they would like to add to the training playlist.
- Propose during the icebreaker in pairs, to change partners after each question.
- Ensure there is sufficient space for everyone to hear each other comfortably during paired activities.

You can also choose more original questions like: What brought them to this training?

What superpower would they need right now?



2. Collecting feedback after the first day

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to reflect on their learning by using the "Rose" method to collect feedback.



10 min

SUMMARY

The trainer closes the day by reviewing the key themes covered in Day 1 and presenting the program of the next day. Before leaving, participants are invited to write three sticky notes and place them on a rose model: something they learnt/enjoyed (rose flower), something they found difficult (thorn), something they would like to learn more about (bud). This technique allows the trainer to collect feedback and adapt the content of the next day, if necessary.

PROCESS

5 min	Wrap-up and program for the following day The trainer reviews the modules covered during Day 1 and presents the agenda for Day 2
5 min	Rose feedback Participants are invited (voluntarily) to write three sticky notes corresponding to: <ul style="list-style-type: none">• Rose: What did you appreciate today?• Thorns: What was difficult?• Bud: What would you like to learn more about tomorrow? The sticky notes are put on the rose model on the wall before leaving.

MATERIALS TO USE

Rose model (paper or digital)

FACILITATION ADVICE

- Present the Day 2 program and allow a short moment of self-reflection before starting the rose exercise. This way, participants can leave as soon as they have placed their sticky notes.
- Display the rose instructions on screen during the self-reflection activity.

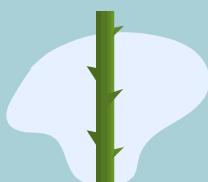
GIVE A FEEDBACK OF THIS FIRST DAY OF TRAINING - 15 min

Rose



What was a success today?

Thorns



What was a challenging?

Bud



What do you want to learn more about

3. Reminder of the first day

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to share one key learning or insight from the first day of training.



15 min

SUMMARY

The "SMS to a colleague" exercise allows participants to reflect on what stood out for them on Day 1 and to share it in a concise and personal way. Sharing the content collectively helps revisit key concepts from the previous day. The trainer then presents the program for Day 2. This activity is useful both to recap the previous day and to quickly integrate participants who may not have attended Day 1.

PROCESS

5 min	Reflection on Day 1: SMS to a colleague Participants write a short SMS or WhatsApp message to a colleague, as if explaining one important point they want to share from Day 1 of the training. This helps identify what was retained or what made the strongest impression during the first day. Instruction is displayed on screen, so latecomers can join the exercise smoothly.
10 min	Sharing messages and introducing Day 2 program The trainer reads some of the messages and uses them as a way to recap Day 1 and then presents the program for Day 2.

MATERIALS TO USE

Online: digital whiteboard or chat function

In-person: paper or sticky notes to write the messages

FACILITATION ADVICE

- If new participants are present: the trainer presents the main outline of the project, the rules of participation (microphone, English as working language, available materials, confidentiality, etc.), and introduces the facilitators and observers of the day.
- Encourage informal interactions: participants may have coffee, look at each other's projects, and leave a sticky note with their name or a question to follow up later.
- If any concepts appear to have been misunderstood, the trainer can clarify them during this introductory session.

SOUVENIR SOUVENIR ABOUT DAY 1 - 5 min

Write a message or whatsapp to a colleague to share with him/her 1 important thing to share about your first training day last week excerpts from the first training session

We did an interesting exercise where we had to sort different scenarios related to climate actions (no more polluting transport within cities, short distance flights, etc.) with regards to how desirable and feasible they are. Interesting discussions between us.

Nothing about us without us. That was an important message for working with marginalized groups

Hey girl! Despite being online all day, we were actually able to connect and share experiences. Great methods, we should try some of them with our team!

Hi! Pity that you missed the first day of the Come Together training... we learned so much, e.g. about different perspectives on political climate actions and discussed those, that was very interesting!

So much interesting people that have amazing jobs and experiences.

Importance of spending time and human welcome.

I also discovered a project about telling personal stories about climate change.

Engaging with communities is super important. We need to ask, not just assume stuff.

I discovered very interesting experiences and projects and also I met interesting people.

We discovered an experience of how to work with communities that we don't necessarily know: how to prepare ourselves to work with others, how to involve them from the beginning of our project.

4. Conclusion of the training

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to share their reflections and feedback at the end of the training.



15 min

SUMMARY

This module allows participants to consolidate their learning, express their impressions, and provide feedback on the training. It encourages reflection on what was useful, what could be improved, and how they plan to apply the knowledge and skills gained.

PROCESS

5 min	Individual reflection Participants provide written feedback on: <ul style="list-style-type: none">• What did I like in the training?• What was missing in the training?• What will I (re)use from the training?• What would I say to future trainees?
10 min	Plenary sharing Participants share key insights and reflections with the group. Participants finish the session by putting their sticky notes on the wall with each question. This conclusion ensures written feedback from participants at the end of the training.

MATERIALS TO USE

- Colored sticky notes
- A template with each question written

FACILITATION ADVICE

Faster alternative: ask each participant to choose a figure or icon representing their mindset and explain it in one sentence. (Note: with 25 participants, this can take longer and may lead to extended discussions.)

5. Energizers



15 min

SUMMARY

Energizers are short, dynamic activities designed to re-engage participants and boost concentration, especially at the start of a session or after a break. They are simple, fast-paced, and encourage creativity and collaboration within the group.

EXAMPLES USED DURING THE TRAINING

- **Finding an original angle:** participants receive a theme and must quickly come up with 7 original ways to approach it, aiming for at least one idea that no other group has found. For instance, "7 angles to talk about climate, environment, or inclusion."
- **Explaining differently:** in teams, participants are given a word and must help others guess it using different techniques such as an image, a five-word sentence, a mime, or a drawing.

IV. Training modules - Climate Communication

Here, participants explore different ways to communicate and engage with climate issues. Activities combine scientific input, emotional reflection, and practical exercises.

! The focus should not only be on understanding climate change but also on making climate education inclusive, ensuring messages are adapted to vulnerable groups.

1. Expressing views on climate-related scenarios: Discussion game ⚙

This module can be conducted with professionals during a training or with excluded audiences during science education activities.

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to guide groups through complex questions and differing viewpoints while maintaining a productive and positive group atmosphere.



60 min - Time required to discuss the scenarios in detail, but shorter version can be used

SUMMARY

This discussion game creates a space where participants can openly share diverse perspectives and tackle complex questions. It focuses on climate-related scenarios, such as food and transportation, classified according to feasibility and desirability.

Participants practice expressing their views, actively listening, and understanding others' motivations. They also learn to reassess their initial positions and monitor their emotions during the discussions.

PROCESS

10 min	Exercise instructions and scenarios The trainer introduces the method rules and presents the scenarios to participants.
10 min	Individual ranking of scenarios In subgroups of 4–5 participants, each participant ranks the scenarios according to two criteria: <ul style="list-style-type: none">• Less feasible → More feasible• Less desirable → More desirable
20 min	Discussion and collective ranking of scenarios 1 min /participant - Each participant presents their rankings. 15 min - The group then discusses each scenario in turn, gathering pros and cons as well as sharing information and emotions. Background information for each scenario is revealed just before discussion. If time permits, this step can be extended for a deeper discussion.

10 min	<p>Reflection</p> <p>5 min - Individually, participants reflect on their initial rankings following the group discussion and change them if they want.</p> <p>1 min /participant - Participants share their final rankings and explain their reasoning.</p>
10 min	<p>Conclusion</p> <p>In plenary, the trainer facilitates a discussion on the process, focusing on questions such as:</p> <ul style="list-style-type: none"> • What did you notice about your own positions? • How did you feel about your position at the start and at the end? • How did you react to others' positions? • Did your position change? Why or why not? <p>The trainer asks to reflect on how this kind of activity can be done with vulnerable audiences during science education activities.</p>

MATERIALS TO USE

- Sheets "less feasible/more feasible" and desirable/undesirable" – 1/group
- Set of scenarios with background information – 1/group

FACILITATION ADVICE

- Prepare scenarios adapted to the local, regional, or national context of your participants. If needed, seek support from scientists to provide background information. You should set-up 3 to 5 depending on how much time can be spent for the discussion) so participants can follow when they are presented
- Consider cultural and social backgrounds to avoid sensitive or inappropriate questions. Adapt language and provide glossaries if needed.
- Select relatable topics with balanced background information showing multiple perspectives, including pros and cons. Create a safe space for all opinions by setting clear communication rules to ensure respect and honest sharing.
- Explain that participants should begin by listening: have participants present their views first to foster openness.
- Encourage sharing of experiences, ideas, and emotions - not just rational arguments - when discussing scenarios.

SCENARIO OF THE DISCUSSION GAME

Scenario A

There are no cars in city centres anymore. Instead, people use car sharing, public transportation or cabs. Delivery and emergency vehicles are allowed in the centre. Where parking lots used to be, there are now green spaces.

Background information A

The greening of parking lots and more public transport/good connections could save millions of tons of CO₂. A study estimated that increasing tree coverage to 30% would cool cities by a mean of 0.4°C.

- What is needed for such a transformation?
- What could the new green spaces be used for?
- How will this affect the quality of life?

SCENARIO OF THE DISCUSSION GAME

Scenario B

Climate-damaging products and services in particular are subject to high taxes.

Background information B

If companies causing more emissions had to pay more taxes, those primarily responsible for the climate crisis would have to bear the costs.

- How could that help achieve climate justice between poorer and richer people?
- What incentives could there be to produce less CO₂?

Scenario C

Food products are no longer sold with disposable plastic packaging.

Background information C

The EU bans some disposable packaging from 2030. Every EU citizen consumes an average of 190kg of packaging waste a year. Without action plastic packaging waste could rise by 46% by 2030.

- Which packaging is particularly sustainable?
- What challenges could there be?

Scenario D

Most people have significantly reduced their consumption of animal products (meat, cheese, milk, etc.). Vegetarian and vegan products are cheaper than meat in supermarkets thanks to government subsidies.

Background information D

Less livestock farming, especially of cows, means fewer greenhouse gases are emitted.

A healthy and sustainable diet could save around millions of tons of CO₂ by 2040.

- What does this mean for agriculture?
- Which foods are more sustainable than others?
- What aspects could be challenging?

Scenario E

There are no more short-haul flights within Europe where a rail journey would take under 6 hours. The rail network and night train connections have been significantly expanded throughout the EU.

Background information E

A University of Manchester study (2021) found that in Europe, many flights over distances under 300 km with existing public transport contribute significantly to harmful emissions.

- What do we need to ensure that mobility in Europe remains possible and comfortable?
- What aspects could be challenging?

2. Talking about climate in a relevant way

PEDAGOGICAL OBJECTIVE

At the end of this module participants will be able to select an appropriate approach to communicate climate and environmental issues to their audience.



35 min

SUMMARY

Through a participatory method where participants rotate between small-group discussions on specific questions, they respond to prompts related to climate change communication. This format encourages idea-sharing and collective learning.

PROCESS

3 min	<p>Exercise instructions</p> <p>The trainer explains the exercise. Each group responds to one of four questions aimed at making climate topics more relevant to the audience—keeping in mind the specific context of socially excluded adults. After completing their question, each group will rotate to the next.</p> <ul style="list-style-type: none">• Question 1: How to explain data or models effectively?• Question 2: How to talk about uncertainty and probabilities?• Question 3: How to take into account the audience's existing knowledge?• Question 4: How to connect the topic to daily life?
5 min	<p>First question carousel</p> <p>Participants are divided into four subgroups. Each group contributes by sharing their ideas in response to their assigned question. One facilitator per group notes all suggestions.</p>
25 min	<p>First question carousel</p> <p>Participants rotate to the next question.</p> <p>2 min - The facilitator shares the contributions from the previous group.</p> <p>6 min - Then the group adds further suggestions.</p> <p>Three rotations are completed, ensuring that each group contributes to all four questions.</p>
2 min	<p>Conclusion</p> <p>No plenary debrief. Participants are invited to review the contributions from all groups during the next break.</p>

MATERIALS TO USE

Online: whiteboard with color-coded sticky notes (one color per group)

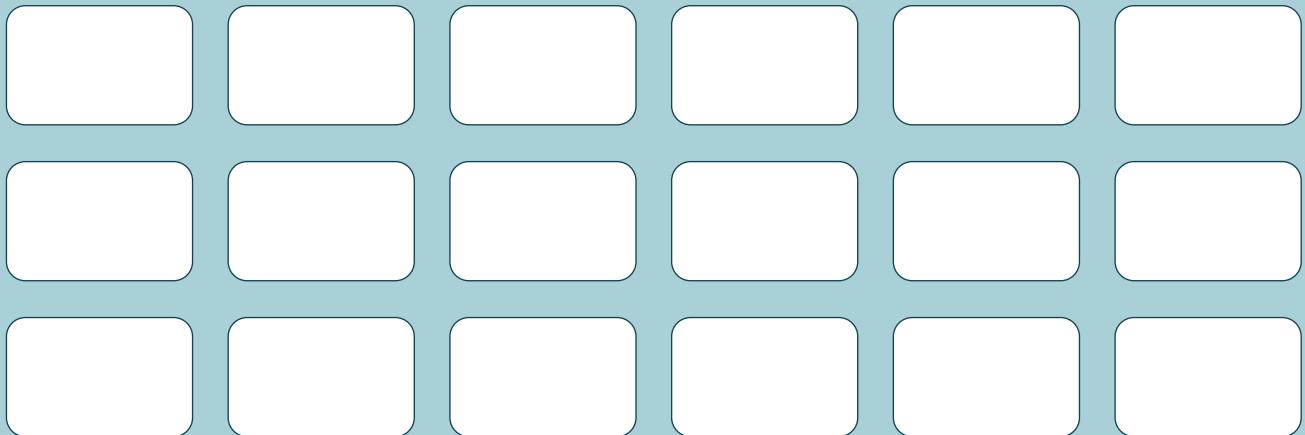
Face-to-face: template with the question + 4 pens in different colors

FACILITATION ADVICE

- Require one facilitator per group, who remains with the same group throughout the activity.
- Assign a color to each group to easily identify each group's contributions.
- Ask participants to give specific and concrete answers rather than general advice.

HOW TO CONNECT THE TOPIC WITH THE AUDIENCE DAILY'S LIFE?

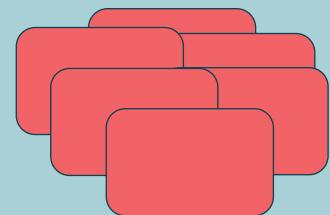
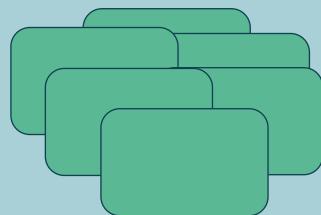
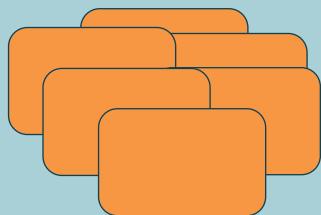
sticky notes breakout room n 1



sticky notes breakout room n 2

sticky notes breakout room n 3

sticky notes breakout room n 4



3. Collecting information about the audience

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to:

- acquire a foundational understanding of climate change and learn how to communicate it to an audience
- understand the impact of climate change on vulnerable populations
- identify resources and examples that can be reused with their target audiences



40 min - 20 min (lecture) + 20 min (Q&A session)

SUMMARY

The lecture covers the basic principles of climate change and its impact on marginalized communities, and presents an example of good practice in climate communication.

Particular attention is given to concrete and visual examples, which participants can reuse.

The lecture is followed by a Q&A session, moderated by the trainer.

In the context of the international training, this lecture was given by Aglaé Jezequel, a specialist in the influence of climate change on extreme weather events and their impacts in Europe.

PROCESS

5 min	Introduction of the speaker The trainer introduces the topic and the lecturer.
20 min	Lecture on climate change The lecturer delivers a presentation on the fundamental principles of climate change and shares an example of good practice of climate communication.
15 min	Q&A session A moderated discussion follows, during which the trainer can ask prepared questions and collect questions from the audience. Participants are encouraged to share their own experiences in community engagement, through interactive questions where they can vote using a green/red object, and then elaborate on their answers. Questions for participants: <ul style="list-style-type: none">• Do you face the same challenges as our lecturer?• Do you use similar techniques to communicate? If no questions arise from the audience, here are some examples of questions to ask the lecturer: <ul style="list-style-type: none">• What should everyone know about climate issues?• What do we truly need to know and share about climate change?• How do you communicate about climate change as a scientist?• What is your research about, and how do you communicate it?• What type of communication about your work has been successful? What seemed like a good idea but ultimately failed?• What aspects of your research are difficult to understand? How do you make them understandable and tangible?• Do you recommend any resources or people to follow?• Should the concept of climate justice influence the way we talk about climate issues?• Do you have any concrete examples?

MATERIALS TO USE

- Presentation from the lecturer (i.e. PowerPoint presentation)
- List of questions for discussion

FACILITATION ADVICE

- Take care to include as many participants as possible and encourage them to share their experiences.
- Ensure that the vocabulary used is accessible and understandable to all participants.
- Provide a clear summary of the lecture at the end of the session.
- Vary the lecture formats: interview, discussion, etc if you have several experts in your training.
- Consider inviting experts on versatile topics to bring a different and complementary perspective. For example, a specialist in climate justice, in popular ecology or decolonial ecology.

4. Taking emotions into account: Stinky fish ☀

This module can be conducted with professionals during a training or with excluded audiences during science education activities.

In this case, the topic just needs to focus on climate, not on climate communication.

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to use the Stinky Fish method to acknowledge and express negative emotions, externalise them, and reduce their impact, creating space for a more constructive mindset.



25 min

SUMMARY

The Stinky Fish is a simple and playful exercise to surface negative emotions related to a topic such as climate change. By openly expressing frustrations, fears, or doubts, participants reduce the weight of these feelings and normalize the idea that negative emotions are part of the learning process.

Participants individually create a "stinky fish" (symbolizing what "stinks" for them) and then share it in small groups. The exercise ends with a collective reflection on how this tool supports emotional expression and group dynamics.

PROCESS

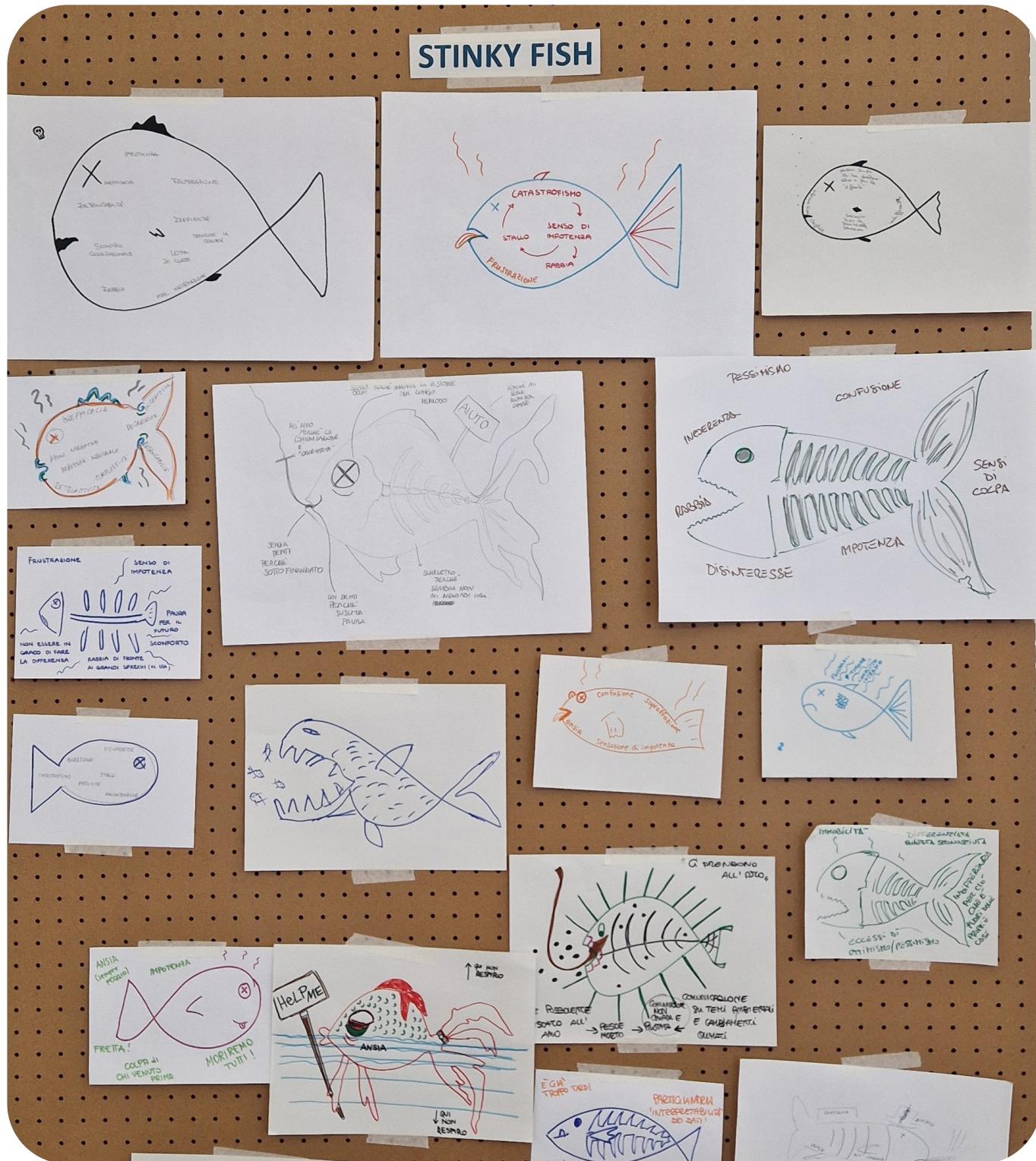
5 min	Introduction The trainer explains the concept of the Stinky Fish exercise. Participants are invited to be honest and write or draw freely – there are no taboos.
5 min	Individual creation Each participant draws a simple fish doodle and adds keywords, sentences, or sketches representing what "stinks" about the topic (anger, frustration, fear, disappointment, etc.). In the context of the training the topic would be: climate communication with marginalized audiences.
10 min	Sharing in small groups In breakout rooms or small groups of 4–5 people, participants share their stinky fish with each other.
5 min	Plenary reflection Back in the big group, the trainer facilitates a reflection on the exercise: <ul style="list-style-type: none">• How did it feel to share negative emotions?• What happens when we hear the feelings and concerns of others?• How can this tool help us engage more constructively with difficult topics?• How would you use this method with the audience?

MATERIALS TO USE

- Pen and paper for each participant
- Optional: pre-printed stinky fish template

FACILITATION ADVICE

- The exercise works equally well online and offline.
- Follow this activity with a forward-looking module (e.g., action planning) so participants do not focus only on negative emotions
- Conduct this exercise once participants know each other and have built trust to ensure safe sharing.



5. Lecture about emotions ☀

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to understand why climate change is a deeply emotional issue and why emotions matter in communication.



15 min

SUMMARY

The lecture covers the importance of emotions in climate communication and explores ways to channel them constructively to support engagement and climate action. It emphasizes how different emotions – often labeled “positive” or “negative” – influence perception, decision-making, and action. A short Q&A session follows, moderated by the trainer and lecturer.

In the context of the training, this lecture was given by Dorothea Born and its work about the central role of emotions in our cognition, communication, and decision-making processes particularly in relation to climate change.

PROCESS

10 min	Lecture by an expert This lecture is based on the work of Dorothea Born, mentioned above. Emotions strongly influence our perceptions and choices, often more than rational arguments. Importantly, emotions should not be seen as exclusively negative: when acknowledged and channelled productively, emotions such as fear or anger can raise awareness, mobilise engagement, and foster constructive action.
5 min	Exchange in plenary Participants briefly share impressions or reflections.

MATERIALS TO USE

PowerPoint Presentation

FACILITATION ADVICE

Works both online and offline.

- Allow time for a short Q&A or reflection to connect the lecture with participants' experiences.
- Presenter should have expertise in climate communication and understand the psychological and emotional dimensions of climate change.

EMOTION IN CLIMATE CHANGE COMMUNICATION

Not thinking in the categories of positive or negative emotions.
Rather in **inhibiting** and **activating** emotions.

RAGE

Feeling powerless (if left alone)

Feeling empowered (challenging rage at a demonstration)

FEAR

Feeling powerless (without solutions)

Can increase awareness (if presented with solutions)

6. Encouraging action: Climate handprint

This module can be conducted with professionals during a training or with excluded audiences during science education activities.

PEDAGOGICAL OBJECTIVE

At the end of this module participants will be able to identify areas where they already make an impact and explore further opportunities for action.



30 min

SUMMARY

The Handprint method shifts focus from the carbon footprint to positive contributions.

Participants visualize their "climate handprint," reflecting on actions that make a difference at home, in relationships, mobility, consumption, and care work. Sharing handprints fosters empowerment and encourages further steps toward a socially and ecologically just future.

PROCESS

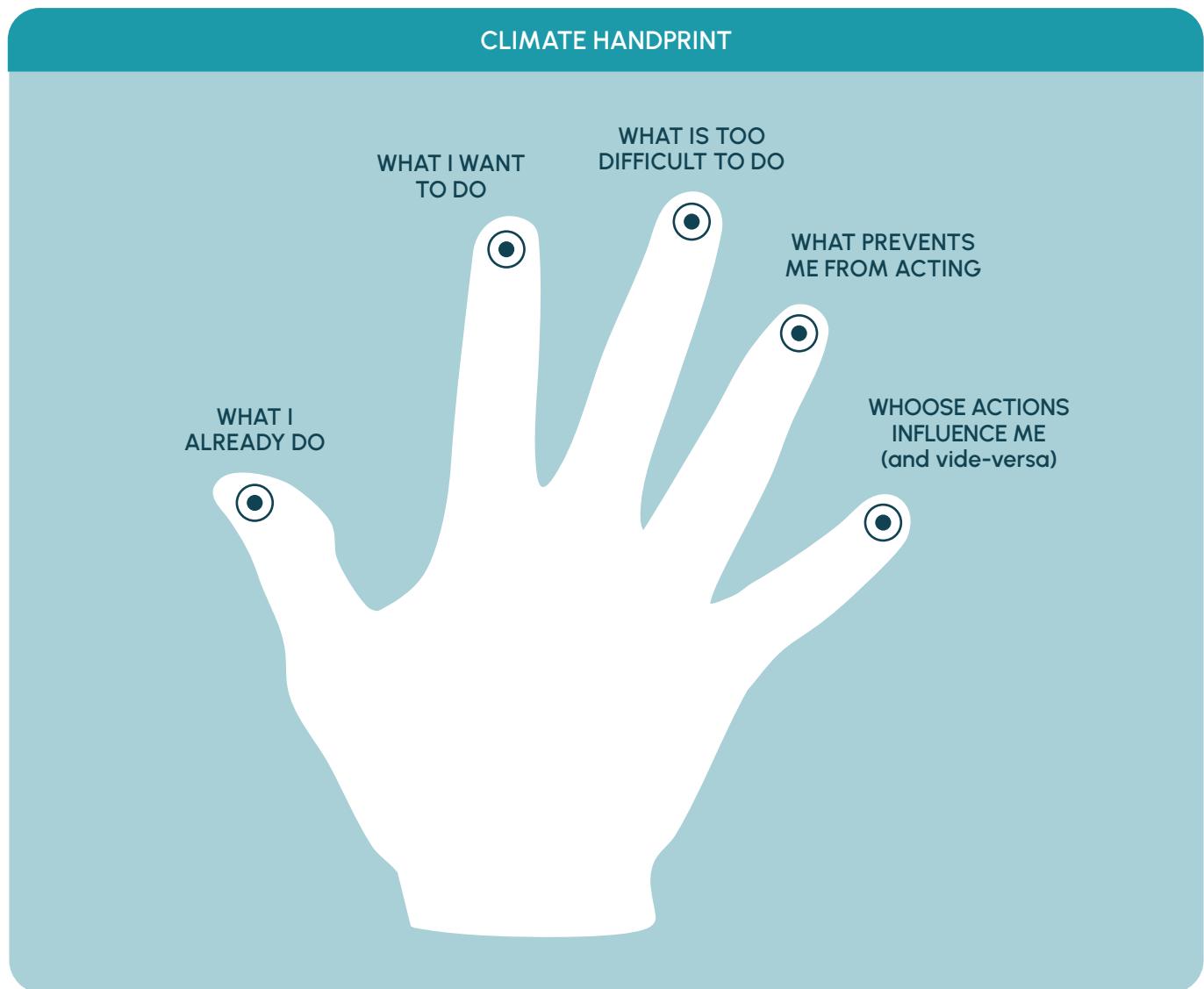
5 min	Exercise Instructions The trainer introduces the Handprint method and explains the five questions, corresponding to the five fingers on the hand.
10 min	Individual Reflection Participants trace their hand on paper, noting actions already taken that have a positive impact. Guiding questions can support reflection, such as: <ul style="list-style-type: none">• What am I already doing that matters?• What empowers me, and how do I empower others?• Where could I grow my handprint further?
5 min	Sharing in groups In pairs or small groups, participants share and compare their handprints.
10 min	Collective Reflection The trainer facilitates the reflection in plenary with the participants, guided by questions like: <ul style="list-style-type: none">• How do you feel about your own practices and your Handprint?• What are you proud of?• What similarities or differences emerged?• What inspired you from others' practices? The trainer with a collective recognition of achievements and a round of applause. The sequence concludes with a list of best practices that encourages audiences to take action.

MATERIALS TO USE

- Paper
- Coloured pencils

FACILITATION ADVICE

- Emphasise that the Handprint is about empowerment, not judgment—there is no "better" or "worse" Handprint.
- Encourage creativity with colours, drawings, or symbols.
- Create an atmosphere that values participants' existing contributions and motivates further action.
- Adapt the exercise to include contributions to inclusion and social justice, as with climate actions.



V. Training modules - Inclusion

This section addresses how to design activities that are truly inclusive and relevant for marginalized audiences. Case studies, expert input, and group exercises help participants reflect on barriers to access and strategies for building trust.

! Climate-related examples are used to show how inclusion can be directly linked to environmental challenges in order to avoid separating related issues.

1. Climate resources: tips to make them accessible for the audience

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to adapt the explanation of a resource related to climate and environmental issues according to their audience, in order to make it understandable and accessible.



40 min

SUMMARY

In this exercise, participants aim to make a resource on climate change or environmental issues more accessible and understandable by using a set of guiding questions designed to adapt the content to various target audiences.

PROCESS

5 min	Exercise instructions The trainer gives the instructions and demonstrates an example using a resource. The trainer briefly presents the different resources available for the exercise. Participants have to choose a resource they want to make more understandable. This helps form groups. Ideally, groups should not exceed 4-5 people. If necessary, multiple groups can work on the same resource.
5 min	Individual familiarization with the resource Each participant reviews the resource individually before discussing it with others. If needed, the trainer can provide additional information.
15 min	Group work Using the list of questions from the template to complete, participants work together to explore different strategies.
15 min	Plenary sharing 3 min/group - Each group presents the resource they worked on.

MATERIALS TO USE

- PowerPoint presentation with the instructions
- Resources to explain
- Response Template Sheets

FACILITATION ADVICE

- Choose resources that can be understood by your participants without extra research
- Use a sticky note voting system with all resources visible to allow participants to choose the resource they want to work on.

A LIST OF QUESTIONS TO ADAPT THE EXPLANATION OF THE RESOURCE TO YOUR AUDIENCE

- How to explain the key message of this document in one jargon-free sentence?
- How could this content be explained using objects or experiences?
- How could the topic be related to the everyday life of a "non-specialist" audience?
- What examples or metaphors could help make this document easier to understand?
- How to make this resource accessible for someone with difficulties seeing or reading?
- If there is an image, what caption could make it understandable?
- If there is no image, what kind of image could be added?

2. Lecture about inclusion

PEDAGOGICAL OBJECTIVE

At the end of this module participants will be able to:

- plan appropriate steps for establishing contact with the target group,
- identify potential barriers to building trust with them,
- understand that every activity has to be planned and implemented with the target group, and not for them – "nothing about us without us".



50 min

SUMMARY

An expert on inclusion delivers a lecture on key principles for collaborating with marginalized communities and presents a good practice example. The session is followed by a discussion moderated by the trainer. In this international training, the lecture was given by Sandi Horvat, representative of the Roma community, and moderated by Tina Palaić from the Slovene Ethnographic Museum, who is experienced in collaborating with him.

PROCESS

5 min	Introduction of the speaker The trainer introduces the topic and the lecturer.
20 min	Lecture on inclusion The lecturer presents fundamental principles of climate change and shares a good practice example.
25 min	Q&A session A moderated discussion follows, during which the trainer can ask pre-prepared questions and collect questions from the audience. Participants are encouraged to share their own experiences, through interactive questions where they can vote using a green/red object, and then elaborate on their answers. Questions for participants: <ul style="list-style-type: none">• Do you face the same challenges as our lecturer?• Do you use similar techniques to communicate?

MATERIALS TO USE

- Presentation from the lecturer (i.e. PowerPoint presentation)
- A list of questions for discussion

FACILITATION ADVICE

- Take care to include as many participants as possible and encourage them to share their experiences.
- Ensure that the vocabulary used is accessible and understandable to all participants.
- Provide a clear summary of the lecture at the end of the session.
- If you have several lectures, vary the formats: interview, discussion, etc.

3. Approaches for inclusion: case study

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to:

- Develop inclusive approaches to engage and build trust with marginalised groups.
- Recognise and address stereotypes, biases, tensions and differing perspectives within groups.
- Reflect on their own role and ensure the relevance of projects for the communities they work with.



60 min

PROCESS

5 min	Introduction The facilitator introduces the topic and explains the workflow.
25 min	Group work on case studies Participants are divided into four groups. Two groups work on the same case study, so that findings can be compared. Case Study 1 (Roma community & climate change) Participants explore how to engage the Roma community in a climate project, despite existing stereotypes and distrust. They must consider ways to build trust, manage tensions between subgroups with different priorities (e.g. water, food, solar panels), and respond to questions about the project's relevance. Case Study 2 (Sudanese refugees & climate change migration) Participants consider how to engage Sudanese refugees in a project on climate change and integration. They must think about building connections with a diverse community, managing the resurfacing of war-related trauma, addressing internal tensions, and overcoming mutual stereotypes between refugees and the host society.
10 min	Moderated discussion Each group presents their findings and suggestions for addressing the challenges of their case study. Facilitators summarise key insights and highlight transferable lessons.

MATERIALS TO USE

- Case studies
- Guiding questions for discussion
- whiteboard or paper models for note-taking

FACILITATION ADVICE

Emphasise that stories may be personal and emotional.

- Two facilitators should lead the discussion, each responsible for one case study, to avoid confusion.
- Be sure that you have a diversity of profile among participants in each group in order to have different perspectives.
- Ensure that the session ends with a clear summary highlighting the main learning points.

Face-to-face: provide printed case studies and use flipcharts for group work.

CASE STUDY 1

Marginalised social groups, who are economically and politically less well placed to advance their interests, are often the most affected by the impacts of climate change. Climate change affects food production (changed weather patterns), cause health issues (e.g. due to pollution), generate loss of property (e.g. in fires or floods), and also affects the chances of marginalised groups to make a fairer transition to a green society (due to their economic situation and less access to information). Marginalised groups are also less often seen as relevant interlocutors in the discussion of these issues, and often climate change is not a priority for these groups themselves.

1. Your organisation has decided to work with the Roma community in your local area in order to involve them in addressing climate change. This will be your first time working with a community with which you have no experience and where there are many stereotypes and prejudices about Roma in society. In addition, for historical reasons and contemporary tensions with the majority society, the Roma community is usually suspicious of working with different institutions.

- How would you invite the Roma community to participate in your project?
- How would you approach getting to know the community you want to work with?

2. After the presentation of the project idea, it became clear that different groups within the Roma community have different needs and interests in addressing climate change. In some communities they stress the need for access to drinking water, which is still not regulated, in others sustainable food production, and in others the desire to install solar panels. At the project meeting, there is a sense of tension and competition between the groups.

- How will you proceed with selecting project activities?
- Think about your role in the community.

3. When you arrive at the Roma settlement where the activities will be carried out, some participants question the benefits the project will have for them. A discussion is opened about the relevance of the project activities. You are confronted with questions such as: Why should I take part in the activity? How will it benefit me in my life? Participants also point out the disadvantage of projects, as after the activities have been carried out, the cooperation usually breaks down and the established relationships fade away.

- How will you respond to the questions?
- How would you build trust between your organisation and the participants?

CASE STUDY 2

Your organisation is involved in a project on migration with the focus on integration of immigrants and intercultural contacts. Climate change is one of the contributing factors to migration, as people are displaced by natural disasters that destroy their homes, and by an inadequate climate that makes food production more difficult and unreliable. People also migrate for other reasons, including persecution based on personal circumstances and the threat of war. You have decided to invite people who have obtained refugee status to participate in the project. You are interested in working with migrants from Sudan, where martial law has been in place for some time, and the region is also suffering from drought and desertification. The topic of your project is climate change.

1. You do not have much information about the Sudanese living in your area. They are a diverse group of people who do not yet speak the local language, but are learning it. Various associations and humanitarian organisations are helping them to integrate.

- How will you find interlocutors and involve them?
- How will you try to get to know a group of immigrants from Sudan?

2. Together with your interlocutors you have chosen the disappearance of traditional farming methods due to drought and desertification as the central theme of your research. As you work, it becomes clear that this theme is intertwined with the experiences and memories of the war that led the Sudanese to leave their homeland. Their participation therefore brings up many of the traumas and, as the activities are carried out, it becomes clear that there are political and cultural tensions within the group of participants that you were not prepared for.

- How will you cope with the emotional distress of the project participants?
- How will you address the tensions and contradictions between different members of the participant group resulting from political and cultural tensions in Sudan?

3. When presenting the processes of integration into the majority society, the participants are keen to highlight their own experiences and their needs when integrating into the different social systems (health, education, labour market). This is because they are often confronted with stereotypes of the majority population, which can also manifest in obstacles for the immigrants. At the same time, immigrants also have many perceptions of the majority population which they have formed on the basis of their own experiences in the new milieu, but which can hinder them in making contact and achieving their goals.

- How can you address and help overcome stereotypes in your project?
- Think about your role in the project.

4. Collecting information about the audience

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to identify and prioritise relevant information to collect about their audience.



20 min

SUMMARY

Participants reflect on the types of information needed to better understand the audience, especially when direct co-construction is not possible. They review a list of guiding questions and then prioritise them through discussion and voting.

PROCESS

5 min	<p>Introduction</p> <p>The trainer explains the importance of collecting information about the audience, particularly when co-construction is not possible:</p> <p>What kind of information is needed to gain a better understanding of the audience? Examples include: context of participation, overall situation, connection to the topic, skills already existing... Information may be gathered beforehand or during the activity. The trainer presents a list of guiding questions.</p>
5 min	<p>Prioritising questions</p> <p>Each participant votes for:</p> <ul style="list-style-type: none">• One question they find particularly interesting.• One question they might otherwise overlook but would like to remember and use in future. <p>They then explain their choices in small subgroups.</p>
5 min	<p>Conclusion</p> <p>The trainer identifies which questions received the most votes and highlights the importance of collecting information not only about the audience's difficulties, but also about what they can and want to do.</p>

MATERIALS TO USE

List of guiding questions

- What is the context of participation (overall context, voluntary or not, inter-individual dynamics)?
- What are the expectations and reasons for participation?
- What are their main concerns?
- What aspects of daily life might affect participation (employment, availability, etc.)?
- What languages are spoken and what is the level of proficiency?
- What skills and experiences do they bring to the topic?
- What are their opinions on the topic? Any fears about it?
- What could create difficulties for this audience?
- What prejudices might we have about this audience (and vice versa)?

FACILITATION ADVICE

- Take care that participants do not stigmatise the audience. The goal is not to assume answers will be different with excluded audience than for regular audiences, but to ensure activities are relevant.
- Repeat that we should avoid assuming we already know the answers – especially when working with audiences you have not met before.
- These are not questions to ask participants directly, but information to gather (often via intermediaries such as social workers).

VI. Training modules - Dialogue Methods

Dialogue is central to inclusive climate education. In this section, participants test and analyze a range of methods for fostering constructive conversations. The emphasis is on listening, co-creation, and integrating diverse perspectives—using climate-related themes as a concrete context for applying inclusive dialogue practices.

1. Deep listening: tell your climate story

PEDAGOGICAL OBJECTIVE

At the end of this module participants will be able to use the "Climate Story" method to practice deep listening by sharing personal experiences of climate change, and reflect on the diversity of perspectives within the group.



25 min

SUMMARY

The Climate Story exercise invites participants to connect personally with climate change through storytelling.

By sharing their own experiences and listening attentively to others, participants practice empathy and reflection. This "deep listening" method highlights the power of personal stories in climate conversations and strengthens trust and understanding within the group.

Through deep listening, participants experience that their voice is being heard and that their experiences matter.

PROCESS

5 min	<p>Exercise instructions The trainer explains the purpose and guidelines of the exercise (importance of openness and active listening, no right or wrong stories).</p>
10 min	<p>Participants work in pairs One person shares their climate story for 5 minutes while the other listens silently, then they switch roles. Such questions can help to start:</p> <ul style="list-style-type: none">• When did you start taking an interest in climate change?• Was there a specific moment that you can remember?• What does climate change mean to you?• What was the process of taking action yourself?• What actions are you taking now in relation to climate change?• How do you think and feel about climate change?

10 min

Reflection in plenary

Participants exchange their perceptions of the exercise. The following questions can guide the discussion:

- What did you enjoy more, sharing your climate story or listening? Why?
- What was particularly interesting to you? Why?
- Were there any similarities or differences between the stories?
- How did you feel when doing the "climate story" exercise? Why?

The trainer concludes by thanking everyone for their participation and their openness to share their personal stories.

MATERIALS TO USE

- Pen and paper (optional for notes).
- A room with enough space for participants to speak in pairs privately.

FACILITATION ADVICE

- Emphasise that stories may be personal and emotional.
- Ensure a safe, respectful and non-judgmental atmosphere.
- Keep strict timing.
- Encourage attentive listening without interruption.
- You can adapt the exercise into «Inclusion Story» by orienting the starting questions with experiences related to inclusion.

2. Chain of questions

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to integrate elements shared by their audience into their message



60 min

SUMMARY

During this exercise, participants work in pairs and take turns: one asks questions while the other responds. The exchange begins with a prompt about what the interviewee is doing to be inclusive in their activities. The person asking questions must actively listen and incorporate elements shared by their partner into their next question.

The objective of the exercise is to foster active listening and, by extension, to better listen to one's audience – learning to integrate the input received into the flow of one's message.

PROCESS

2 min	Exercise Instructions & Pair Assignment The trainer explains the exercise and assigns participants into pairs.
10 min	Paired exchange In pairs, Participant 1 asks the first question. Participant 2 responds. Then, Participant 1 follows up with a new question that integrates elements from the previous answer. The conversation begins with the prompt: "What are you doing to be inclusive in your activities ?" Participants can switch roles after 5 minutes.
3 min	Conclusion Back in plenary: the trainer asks if participants feel comfortable with the exercise, voting with green or red object, and participants share how they felt, followed by short comments from two volunteers.

MATERIALS TO USE

Online: virtual rooms

FACILITATION ADVICE

- Be careful of not doing this exercise just after a listening module
- **Face-to-face:** make sure to space participants out enough so that pairs are not distracted by the noise of others.

3. Dialogue: analysis of diverse methods

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to identify the principles of different dialogue methods, understand their strengths and limitations, and explore how to adapt them to their own contexts depending on topic and audience.



60 min

SUMMARY

This module introduces participants to a variety of dialogue methods and their practical applications in climate and environmental education to be more inclusive. By combining presentation, group analysis, and plenary discussion, participants reflect on the value of dialogue for inclusion, participation, and empowerment. They also identify challenges and good practices to better adapt these methods to their own audiences, especially vulnerable groups.

PROCESS

20 min	Introduction and Exploration of Dialogue The facilitator asks participants about their own experience with dialogue in educational practice: <ul style="list-style-type: none">• Do you use dialogue methods?• What challenges have you faced? Six dialogue methods are introduced.
25 min	Analysing a Method In small group, participants choose one dialogue method to analyse in groups of 4–5. Each group explores how the method could be applied in a climate/environmental education context with vulnerable adults. Guiding questions include: <ul style="list-style-type: none">• In what context is this method relevant? (e.g. time available, objectives, type of input expected from participants)• How can we ensure inclusivity and avoid exclusion mechanisms?• How can outputs be valued or used afterwards?• On which specific climate topics could this method be most effective? Each group selects a spokesperson to report back in plenary.
15 min	Plenary Sharing Groups share one piece of advice that they think is relevant for all methods and one difficulty without a clear solution. The trainer synthesises the key insights, highlighting both opportunities and challenges of applying dialogue methods.

MATERIALS TO USE

- PowerPoint presentation with descriptions of the six dialogue methods
- Handouts or slides with guiding questions for group work.

FACILITATION ADVICE

- Ideally, participants will already have tested some of the dialogue methods earlier in the training. This allows for a more reflective approach during this module.
- Let participants choose the method they feel most comfortable with, or that they are most likely to use in their own practice.
- Encourage honest discussion about both benefits and limitations – dialogue is not a one-size-fits-all solution.

DIALOGUE METHODS			
Method	Description	Strengths/Interests	Limitations / Points of Attention
World Café	Participants rotate between small discussion tables to exchange on guiding questions.	Encourages broad participation; generates many ideas quickly; inclusive and dynamic.	Risk of superficial discussions; requires strong facilitation and timekeeping.
Photolanguage	Participants react to images and use them to express feelings, ideas, or experiences.	Stimulates creativity and emotions; useful for diverse groups or when verbal expression is difficult.	Some may struggle to connect with abstract images; preparation of materials required.
Discussion Game	Structured game format where participants discuss issues guided by cards or rules.	Fun and engaging; lowers barriers to participation; helps explore different perspectives.	Can drift away from main topic; requires clear instructions and facilitation.
Fish Bowl	Small group discusses in the centre ("the bowl"), others listen; participants can swap in/out.	Good for deep discussions; encourages attentive listening.	Some may feel excluded or intimidated; requires careful group management.
Best Case / Worst Case Scenario	Groups imagine the best and worst outcomes of a situation, then compare.	Encourages critical thinking; helps anticipate risks and opportunities; connects to real-life contexts.	Can reinforce negative perspectives if not balanced; may need more time to debrief.
Role Play	Participants act out situations or perspectives relevant to the topic.	Builds empathy; makes abstract issues concrete; very engaging.	Some may feel uncomfortable acting; risk of reinforcing stereotypes without good debriefing.

4. Dialogue in practice: The triangle exercise

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to reflect on the use of dialogue tools to enhance listening, questioning (dialogic listening and questioning), and collaborative reflection in educational settings.



60 min

SUMMARY

This session provides a practical, hands-on experience of dialogue through the **Triangle Exercise**, allowing participants to practice structured listening, question formulation, and collaborative reflection. Participants rotate through three roles – Brainstorming, Facilitators, and Observers – to explore dialogue dynamics, observe interactions, and practice co-constructing understanding.

This session is part of a sequence that alternates practical exercises with short theoretical inputs ("theory pills") and was developed and facilitated by **Samantha Maggiolo**, an expert in maieutic dialogue and inclusion, during a training session with the Italian project partner.

PROCESS

10 min	<p>Instructions of the exercise</p> <ul style="list-style-type: none">• Brainstorming Group: Shares ideas aloud on a chosen topic, e.g., "Engaging in dialogues on climate change with vulnerable populations", freely expressing thoughts, concerns, and questions.• Facilitators Group: Listens attentively, sets aside personal opinions, and identifies the questions and dialogue needed to support the brainstorming group.• Observers Group: Watches interactions, notes group dynamics, records personal reactions, and reflects on potential interventions if they were in the other roles. Occasionally, they are prompted to share keywords capturing their immediate impressions.
30 min	<p>Running of exercise</p> <p>10 min - Brainstorming group begins sharing ideas. Facilitators formulate one-sentence questions to guide the dialogue, without adding explanations or commentary. Observers provide keywords describing their impressions.</p> <p>5 min - Brainstorming group selects one facilitator question to answer, reflecting on whether it clarifies or shifts their perspective.</p> <p>15 min - After initial rounds, participants form smaller groups of 3-4 to plan facilitator interventions step by step, estimating phase timing and expected outcomes.</p>
20 min	<p>Summary in Plenary</p> <p>The trainer invites participants to reflect on their personal responses. The trainer highlights how trust between participants enhances dialogue quality and the co-construction of understanding. As well as the key Learning Points:</p> <ul style="list-style-type: none">• How to facilitate dialogue without imposing personal views• How listening carefully shapes meaningful questions• How structured observation supports reflection and improves future facilitation• Understanding the importance of attentive observation, reflective listening, and co-construction of knowledge

MATERIALS TO USE

- Sticky notes
- Paper
- Pens
- Flip charts
- Room allowing small-group splits

FACILITATION ADVICE

- Give participants space and time to express opinions, engage in exercises, and reflect together on what worked well in their dialogue dynamics.
- Ideally, 2–3 trainers circulate among groups to support exercises and contribute to debriefings.
- Use theory pills after exercises to provide conceptual insights and consolidate learning.

Additional note

For a full training session on dialogue methods, begin with a Deep Listening module, continue with Chain of Questions exercises, and conclude with the Triangle Exercise. Include moments for self-reflection and theory pills to help participants integrate principles and best practices in dialogue facilitation.

VII. Training modules - Reflexivity & Participants's Projects

The final section invites participants to reflect on their own professional practices and projects. Through self-reflection, project-sharing, and action planning, they identify how to integrate both climate and inclusion perspectives into their daily work. The goal is to connect personal practice with collective learning and to leave with concrete next steps.

1. Self reflection moment

PEDAGOGICAL OBJECTIVE

At the end of modules, participants will be able to identify relevant elements and reflect on how they relate to their own practices.



5 min

! This can be done with music playing in the background to help with concentration.

SUMMARY

Self-reflection moments are dedicated to individual note-taking, where participants note what they could reuse in their practices and in their contexts. Placed at the end of a module, they help participants remember the key concepts, reflect on their exchanges with others, and consider their own professional practices.

PROCESS

Self reflection moments take place at the end of each module, or at least at the end of each half-day.

5 min	Writing The trainer briefly reminds the group – orally and/or in writing – of the topic(s) covered in the previous module(s). Individually, participants write down their reflections by answering two questions: <ul style="list-style-type: none">• What do I want to remember?• What does this mean in my context?
1 min	Sharing These notes are personal. Invite one or two volunteers to share something if they wish.
1 min	Introduction to the next session The trainer introduces the topic of the next sequence.

MATERIALS TO USE

- Pen
- Paper
- **Optional:** Fill-in template.

FACILITATION ADVICE

- Briefly remind participants of the topic(s) covered before the self-reflection moment, to help them identify key elements
- Keep it optional for participants

Online

- We recommend that participants take a piece of paper to allow for a moment of disconnection.

Face-to-Face

- We have developed a self-reflection notebook (which can also be printed and used by online participants).

SELF-REFLECTION BOOKLET

Topic of the training sequence

I feel



What do I want to remember

What does this mean in my context? What could I reuse?

2. Sharing projects among participants

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to learn about the strengths and challenges of other participants' projects on climate and inclusion.



50 min

! Duration may vary depending on the size of the sub-groups. We recommend groups of 4-5 people to hear different projects without feeling repetitive.

SUMMARY

The project-sharing activity allows participants to present their own projects and discover those of others. It also encourages them to step back and reflect on their work, while sharing useful insights with the group, such as successes and challenges to design inclusive educational activities about climate change. The project presentation template helps structure exchanges. Participants are invited to use the project-sharing format, focusing on what worked, what was difficult, what remains challenging, and how the project can be more inclusive and environmentally oriented.

PROCESS

5 min	Exercise instructions The trainer introduces the project-sharing activity. Participants are invited to share a current project by filling in a template. The trainer can give an example, such as the Come Together project, to illustrate the format.
5 min	Write down a current project Individually, each participant writes about one of their projects, using the following structure: <ul style="list-style-type: none">• Title• Contact• Describe your project in two sentences• One thing you're proud of• One challenge• One open question you're still exploring
30 min	Share in small groups 5' per project - In subgroup, each participant presents their project.
10 min	Strengthen the projects In each group, participants discuss together: <ul style="list-style-type: none">• 5 min - How to make these projects more inclusive?• 5 min - How to better integrate environmental and climate issues?
10 min	Closing and reflection There is no plenary debrief. Instead, the trainer includes a self reflection moment where participants can add notes about how this exchange impacts their own project or what they have learned from others. Participants can also review other projects and write suggestions, ideas, or advice for others on sticky notes, including their name if they'd like to connect further about a project. These notes can help create new subgroups for the next session.

MATERIALS TO USE

Project presentation template

FACILITATION ADVICE

- To keep exchanges dynamic in small groups, limit each project presentation to 5 minutes. The trainer signals time (bell/timer) every 5 minutes.
- If discussion lags, suggest moving on to the next part: how to make projects more inclusive and environmentally focused.
- Display all participants' projects (digital or real walls), so participants can read them at any time.
- Plan at least two project-sharing moments during the training to discover initiatives and foster connections for future collaborations.
- Vary interaction formats. For example: walking through projects during a coffee break or skill exchange (Which skill do you have that could be useful to someone else? And which one was missing in your project?).
- Schedule the first project-sharing session on day one, so participants share their projects and get to know each other.

TEMPLATE FO PROJECT PRESENTATION

PROJECT'S NAME

First and last name

E-mail

Your project in 3 sentences:

.....
.....
.....
.....

Your proudest achievement in this project?

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.....
.....

A challenge you have met during this project?

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A question you're still asking yourself?

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To be more inclusive

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To focus more on environmental issues

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.....

3. Evaluate your project

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to identify the relevant approach to evaluate their project.



30 min

SUMMARY

This module introduces participants to the importance of designing a relevant evaluation for inclusive activities about climate and environment. Participants reflect and discuss their practices.

PROCESS

10 min	<p>Presentation of project steps</p> <p>The trainer presents the main steps of a co-construction project as identified in the project and asks participants if they have the same steps. A short discussion explores the challenges they might encounter in different contexts (long-term vs one-off projects, with or without partners).</p> <p>Then the trainer explains that the focus will be on evaluation and gives the instructions.</p>
10 min	<p>Subgroup discussion</p> <p>Participants are divided into subgroups. Using their own project description, they add sticky notes about the evaluation of their project:</p> <ul style="list-style-type: none">• When is evaluation designed? conducted?• Who is involved in this process?• What are the indicators?• How are evaluation results disseminated?
10 min	<p>Plenary discussion</p> <p>Each subgroup shares their main reflections. The facilitator summarizes key insights and invites general comments on evaluation approaches (the importance of co-construction, the benefit of having specific objectives, some examples of indicators and dissemination processes...).</p>

MATERIALS TO USE

Sticky notes

FACILITATION ADVICE

Encourage participants to reflect both on ideal scenarios and realistic constraints.

Reassure novice participants: they can say what they would like to do and share their difficulties.

4. Individual action plan

PEDAGOGICAL OBJECTIVE

At the end of this module, participants will be able to identify concrete actions they want to start, stop, or continue in their professional practice based on their learning during the training.



20 min

SUMMARY

This module helps participants consolidate learning by defining a personal action plan.

Participants reflect on practical changes they want to implement, reinforcing good practices, stopping ineffective habits, and introducing new approaches.

PROCESS

5 min	<p>Individual work Participants write down the actions they want to Start, Stop, and Continue in relation to what they learned during the training. It includes the actions they want to:</p> <ul style="list-style-type: none">• Start: Which new practices do you want to implement?• Stop: Which habits or practices should you stop?• Continue: Which existing practices do you want to strengthen or maintain? <p>This plan can include projects, use of specific tools, work habits, people to contact, or documents to consult. It serves as a memo for the coming months.</p>
15 min	<p>Subgroup exchange In small groups, participants share and explain their choices to their peers. This encourages reflection on the meaning behind each action and can inspire others.</p>

MATERIALS TO USE

Template to complete the action plan

Face-to-face: you can integrate the action plan in the self-reflection booklet

FACILITATION ADVICE

No plenary feedback, only subgroup discussion.

The trainer may ask 2-3 volunteers to share their plans to close the session. participants: they can say what they would like to do and share their difficulties.

ACTION PLAN: START, STOP AND CONTINUE

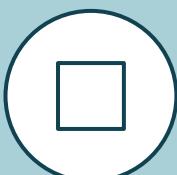
YOUR NAME

Start



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Stop



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Continue



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VIII. Resources for trainers

1. Climate communication

Ten Key Principles for Climate Communication - Sippel, M., Shaw, C. & Marshall, G. (2022)

Presents ten evidence-based principles for effective climate communication. Provides clear guidance for building trust, making messages relatable, and encouraging meaningful public engagement.

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4151465

Communicating Climate - Yale Climate Connections

A collection of articles, podcasts, and tools from Yale Climate Connections, focusing on innovative and effective ways to communicate climate change to the public.

<https://yaleclimateconnections.org/topic/communicating-climate>

The Climate Dictionary, UNDP (2023)

An accessible glossary explaining common climate change terms in everyday language, designed to make scientific concepts understandable to the general public.

<https://climatepromise.undp.org/news-and-stories/climate-dictionary-everyday-guide-climate-change>

Are We Communicating Climate Change Wrong?, PreventionWeb (2022)

Practical communication guide offering five strategies to improve climate messaging: act as a translator, make it human, add hope, co-create messages, and ensure credible sources.

www.preventionweb.net/news/are-we-communicating-climate-change-wrong-here-are-five-ways-improve

Stinky Fish Exercise - SessionLab

An interactive group exercise designed to surface hidden concerns, doubts, or "smelly" issues that participants carry with them. Often used to open dialogue, build trust, and create space for honest reflection in group settings.

www.sessionlab.com/methods/stinky-fish

The Emotions of Climate Change, Office for Climate Education

A comprehensive professional development resource for teachers. It explores the emotional dimension of climate change, helping educators address eco-anxiety and support students in processing complex feelings related to environmental issues

www.oce.global/en/resources/teacher-professional-development/emotions-climate-change

Risk Communication, Public Engagement, and Climate Change:

A Role for Emotions - Roeser, S. (2012)

Explores the importance of emotions in climate risk communication and public engagement. Argues that emotions can play a constructive role in motivating meaningful climate action.

<https://doi.org/10.1111/j.1539-6924.2012.01812.x>

The Multiplicity of Emotions - Pfister, H.-R., & Böhm, G. (2008)

Presents a framework of emotional functions in decision-making, showing how different emotions shape choices and behaviors in complex contexts like climate change.

<https://doi.org/10.1017/S193029750000127>

Ecological Handprint – Climate Change Connection

Background document explaining the ecological handprint, its relationship to the ecological footprint, and how the concept can be used in climate education and communication.

<https://climatechangeconnection.org/wp-content/uploads/2019/03/Ecological-Handprint-Backgrounder.pdf>

2. Inclusion

Accessibility of Cultural Heritage to Vulnerable Groups – Palaić & Valič (2015)

Collection of essays addressing barriers that prevent marginalized communities from accessing and engaging with cultural heritage.

www.etno-muzej.si/files/elaborat_eng.pdf

Connecting to Communities - Creative Museum (The Creative Museum Project, 2017)

Guide for museum professionals offering examples and practical advice to foster participatory and creative engagement with communities.

http://creative-museum.net/wp-content/uploads/2017/09/Toolkit_Communities_EN.pdf

Curatopia: Museums and the Future of Curatorship - Schorch & McCarthy (2019)

Challenges the traditional curator role, advocating for more engaged, ethical, and collaborative practices in a changing museum landscape.

Engaging Heritage, Engaging Communities - Onciul, Stefano & Hawke (2017)

Examines theory and practice of community engagement in museums and heritage sites, focusing on building meaningful relationships with diverse communities.

Engaging your Community: A Toolkit for Museums, Ontario Museum Association (2015)

Practical toolkit helping museums assess their relevance and build deeper relationships with their communities. Provides step-by-step guidance and actionable advice.

www.tamarackcommunity.ca/library/engaging-your-community-a-toolkit-for-museums

Equity, Exclusion & Everyday Science Learning:

The Experiences of Minoritised Groups - Dawson (2019)

A zine that critically examines the concept of equity in science learning & communication, and develops a framework to support inclusive change.

<https://equityandeverydayscience.wordpress.com/zine/>

Museums and Communities- Golding & Modest (2013)

Essays exploring participatory museum practices, decolonization, and building socially relevant, democratic institutions.

Practicing Collection Ethics: A Toolkit for Museum and Archive Professionals (TRACTS Project, 2023)

Toolkit using real-world examples and reflective questions to help curators and archive professionals address ethical dilemmas beyond formal guidelines.

<https://tractsnetwork.online/news/archive/practicing-collection-ethics-toolkit>

Spark - evaluation workshop about equity, diversity and inclusion - by Diversci

A tool to self-evaluate your institutional level of awareness and practice of inclusion, equity, diversity and social justice developed by Diversci a collective of science engagement professionals.

www.diversci.eu/evaluation-workshop

The Participatory Museum - Simon (2010)

Provides conceptual frameworks and case studies on involving visitors in co-creating, sharing, and engaging with museum content.

<https://participatorymuseum.org>

3. Dialogue methods

Dialogue in Public Engagement: A Handbook

This handbook enable researchers to communicate with other groups in ways which genuinely enhance mutual understanding around their work.

<https://edinburghbeltane.wordpress.com/wp-content/uploads/2011/11/dialogue-handbook-final.pdf>

How to Have a Climate Change Conversation – Climate Outreach

A practical guide offering strategies to start constructive conversations on climate change. Focuses on empathy, shared values, and accessible language to engage diverse audiences.

<https://climateoutreach.org/reports/how-to-have-a-climate-change-conversation-talking-climate>

Public dialogue facilitators guide

A toolkit to help you facilitate and guide discussions, debates or dialogue in your public engagement.

www.imperial.ac.uk/media/imperial-college/be-inspired/societal-engagement/public/How-do-I-have-effective-dialogue-with-the-public.pdf

IX. Adapting the Training to your context

1. General advice

If you want to adapt the training to your context – i.e., remove, add, or modify parts of the training – here is your checklist.

1. Duration

The chosen duration is sufficient to create group dynamics while taking into account the time constraints of the target participants (our suggestion: between 1 and 3 days).

2. Content

You have mobilized local expertise. And the objectives and activities do not give the impression that issues of inclusion and climate communication can be considered separately (our suggestions: have climate experts talk about vulnerability issues, have examples of inclusive projects with climate themes, alternate activities on each theme).

As the training relies on the complementarity of skills among participants from different disciplinary fields (science communication, research, social action), some exercises need to be adjusted when one of these profiles is missing.

3. Pace

You have alternated the type of participation required (listening, discussing, debating, drawing, etc.) as well as the type of interaction (working alone, in small groups, in plenary sessions), with at least one break per half-day.

4. Educational progression

The training begins with an icebreaker and the first activities allow participants to share their knowledge. The order of your sequences seems logical (e.g., from general to specific, from simple to complex, from concrete to abstract, etc.).

5. Preparation

You tested some modules before the training to check, for example, that the duration of each activity was correct and that the instructions were clear.

2. Technical advice for online training

If you are conducting the training online, you must prepare the timeline and the collaborative whiteboard very carefully.

For the schedule, we recommend creating a table with one row per sequence.

The columns should indicate:

- the name of the sequence
- the start time and duration
- the name of the facilitator
- a description of the sequence

- the materials
- for sub-group sessions: the size of the groups, the names of the facilitators
- messages to copy into the chat (instructions, URL link to the whiteboard, etc.)
- the name of the person providing technical support.

For the collaborative whiteboard (Mural, Miro, etc.), you will need to prepare a template with defined spaces (background frame, different colours, etc.) for each sequence with the correct number of blank templates/post-it notes for participants to fill in. The instructions and duration of each sequence must be written down. We recommend that you cover the sections and reveal them as the training progresses.

3. National adaptations

In this section, you will find the **five national training programs**, each project partner tailored.

Adaptations in each national context are indicated with this symbol: 

It highlights exercises or modules that have been modified to fit the participants' profiles, trainers' expertise or resources, such external experts, available in that country.

FRANCE – UNIVERSCIENCE (US)

To prepare the national training course, the Universcience team thoroughly analyzed feedback from the international training session. Based on this, several key decisions were made:

- increasing the time allocated for partners to share their projects
- engaging experts who vary their presentation formats
- having participants actively test dialogue techniques before analyzing them.

We invited 3 experts: Aglaé Jézequel (climate researcher), Thomas Legon (sociologist) and Vanessa Mignan (consultant on inclusive science communication) who really helped, through their lectures, to make the connection between climate and inclusion. For example one sequence allowed us to shift the focus from "Who is responsible?" to "How can we build a sustainable future?" when we are talking with marginalized adults. Additionally, we developed specific sequences tailored to topics of particular interest to hub members, including:

- a fishbowl discussion on encouraging audiences to transition from reflection to action
- dedicated time to define and explore inclusion
- opportunities for participants to share ready-to-use tools and skills to support others
- an exercise designed to make resources accessible using real documents.

In Paris, the emphasis was on helping participants apply these skills in their own professional contexts. To support this, we created a self-reflection notebook where participants can record insights and strategies they plan to integrate into their practice.

Day 1

Morning	<ul style="list-style-type: none">• Welcome & Introduction• Icebreaker & Training program• Photolanguage: what is inclusion? • Lecture about climate• Explaining resource about climate : tips to be understood and relevant for the audience 
Afternoon	<ul style="list-style-type: none">• Taking emotions into account: Stinky fish• Discussion about climate justice – with a sociologist • Encouraging action: Fishbowl exercise • Sharing projects among participants• Conclusion of the first day

Day 2

Morning	<ul style="list-style-type: none">• Collective summary of day 1• Free walk among the projects sheets • Lecture about inclusion in science communication• Deep listening : tell your inclusion story • Approaches for inclusion: case studies• Sharing projects among participants : skills exchange 
Afternoon	<ul style="list-style-type: none">• Expressing views on climate related scenarios: Discussion game• Sharing ready-to-use tools for educational activities - World café • Dialogue: analysis of diverse methods• Individual action plan• Conclusion

ITALY - National Museum of Science and Technology "Leonardo da Vinci" (MUST)

To developed the local training, MUST presented the online training to local hub members and gathered feedback from Italian participants. Key adaptations included :

- valuing the experience of hub members
- providing participants with opportunities to discuss their own experiences.

MUST also invited local experts from the hub to contribute to the training. External contributors included representatives from the Milan Municipality presenting the city's climate change plans; Samantha Maggiolo, an expert in maieutic dialogue and inclusion; Giorgio Vacchiano, a climate change researcher from Milan University; Ines Lettera, director of the NGO Caritas, working with homeless people; and five homeless individuals affiliated with the center who shared their experiences of inclusion.

Feedback collected at the end of the first training day shaped sessions of second training day, such as :

- recognizing the diverse expertise of participants
- allocating more time to maieutic dialogue with Samantha Maggiolo. Initially scheduled only for the first day, she was invited to lead activities on the second day as well.

Overall participant feedback was very positive. The invited experts also expressed appreciation, particularly the homeless contributors who highlighted that they are rarely invited to share their experiences as experts in such multidisciplinary settings.

Additionally, participants of the two-day training were offered a third day to test the educational activity developed by MUST as part of the Come Together project. Seven individuals attended this additional session.

Day 1

Morning	<ul style="list-style-type: none"> • Welcome & Introduction • Icebreaker & Training program • Inclusion: activity and short talk  • Sharing projects among participants
Afternoon	<ul style="list-style-type: none"> • Taking emotions into account: Stinky fish • Lecture about climate, activism and inclusion - by a journalist expert  • Listening and dialogue approach activities and short talks (part 1)  • Free walk among the projects sheets  • Conclusion of the first day

Day 2

Morning	<ul style="list-style-type: none"> • Collective summary of day 1 • Lecture about climate and justice  • Exchange with the Municipality Climate Plan  • Project presentation: Poetry lab – by an NGO and homeless people 
Afternoon	<ul style="list-style-type: none"> • Listening and dialogue approach activities and short talks (part 2)  • Individual action plan • Conclusion

GERMANY – Ethnological Museum (EM - SPK)

To design the national training, the EM compared the needs of hub members with the international training program. Together with national hub members (some of whom had participated in the international training) the EM discussed methods and findings, gathering feedback and suggestions for adapting the international training for the national one.

Hub members emphasized the importance of sufficient time for exchanging expertise and discussing how to translate theoretical knowledge into practical application.

Key adaptations for the national training

- **Practical application:** More time for exchanging expertise and projects to translate theoretical knowledge into practice.
- **Environmental-ethnological perspectives:** Inclusion of a tour on Indigenous knowledge practices by Andrea Scholz (Curator for Transcultural Cooperation) to challenge Western views on nature, emphasizing the interconnectedness of humans and the environment in other cultures and highlight global aspects on climate and biodiversity crises and resource justice.

- **Insights in interdisciplinary research:** Integration of the Humboldt Labor (Exhibition space of the Berlin University Alliance), featuring the experts Dr. Tobias Krüger (geography), Heindriken Dahlmann (geography), Pauline Münch (citizen science), and Bastian Herbst (science education) to illustrate global challenges and solutions. Including a discussion between experts and participants on how to communicate complex topics effectively to diverse audiences.
- **More time for target group orientation:** Different practical examples for reaching underserved adults, including projects with Ukrainian communities (presented by Roksolana Ludyn), how to link intercultural community gardens with environmental education and trauma support for refugee women (presented by Begzada Alatovic, Südost Europa Kultur e.V.) and supporting Afro-German audiences through practical everyday life support and creative media projects (presented by Katharina La Henges, Joliba e.V.).

Day 1

Morning	<ul style="list-style-type: none"> • Welcome & Introduction • What is inclusion? • Sharing projects among participants – session 1 • Communicating climate and environmental topics • Climate in interaction – Formats for Sparks, Flow und Questions: a presentation of participatory and discussion formats based on practical projects and experiences 
Afternoon	<ul style="list-style-type: none"> • Theatre exercise: Climate and environmental associations  • Taking emotions into account: Stinky fish • Encouraging action • Exhibition tour: Indigenous knowledge practices and environmental ethnology topics in the exhibition  • Conclusion of the first day

Day 2

Morning	<ul style="list-style-type: none"> • Introduction of Day 1 • Case Studies socially inclusive project work  • Expressing views on climate related scenarios: Discussion game
Afternoon	<ul style="list-style-type: none"> • Sharing projects and learning from each other – session 2  • Guided tour of the exhibition "After Nature" with contributions from environmental scientists  • Dialogue: analysis of diverse methods • Conclusion

AUSTRIA - Science Center-Network (SCN)

The training in Vienna placed a stronger focus on the exchange of practical formats, making full use of the opportunities offered by an in-person setting.

The aim was to inspire the participants with diverse approaches and share successful activities, of which some had been imagined, prototyped or further developed in the co-creation processes of with the hubs.

Participants could freely move between stations, explore different activities, and discuss them with peers or facilitators. After the strong success of the first practical activity try out on day one, a second was added on day two.

The formats included hands-on experiments, various discussion formats, visual puzzles and riddles, and interactive data exploration formats. Topics covered were the greenhouse gas effect, ocean acidification, SDGs, mobility of the future, planetary boundaries, the carbon cycle, local temperature development, societal CO₂ emission mitigation measures, and discussion of poverty.

Additional space was given for exchange between projects. Informal networking was facilitated by offering coffee, snacks, and extra time before and after the official training schedule, which was especially used after day two. Participants also had the opportunity to reflect about the implications of inclusion aspects for their own contexts and target groups.

Exchange between projects was also encouraged for development of personal action plans.

Finally, the expert talk about climate was redesigned. Instead of a general introduction to climate knowledge, which most participants presumably possessed, SCN invited data visualisation researchers, to provide concrete examples of good and poor practices in communicating climate data. A practical exercise allowed participants to critically analyse publicly available visualisations and discuss their strengths and weaknesses for use in educational context for public.

Day 1

Morning	<ul style="list-style-type: none">• Welcome & Introduction• Try out session for climate and science engagement activities 1 • Sharing projects among participants – session 1• Lecture about inclusion in science engagement
Afternoon	<ul style="list-style-type: none">• Group discussions about inclusion aspects and implications for one's personal context/projects • Explaining resource about climate : tips to be understood and relevant for the audience • Expressing views on climate related scenarios: Discussion game• Self-reflexion and conclusion of the first day

Day 2

Morning	<ul style="list-style-type: none">• Lecture about emotions in climate communication• Taking emotions into account: Stinky fish• Photolanguage exercise about emotions • Encouraging action: Climate handprint
Afternoon	<ul style="list-style-type: none">• Try out session for climate and science engagement activities 2 • Lecture about visualisation of climate data: theory and good practice examples• Evaluation-tool of data visualisation for educational context: exercise • Sharing projects among participants – session 2 • Individual action plan• Conclusion

SLOVENIA - Slovene Ethnographic Museum (SEM)

For the development of the national training, SEM drew on feedback from international training participants as well as the needs identified by hub members. The training was structured around three core components:

- identifying barriers and challenges to engaging marginalized audiences
- focusing on the specifics of climate and environmental communication
- experimenting with diverse methods adapted to the topic and audience.

Based on the needs of national training participants – and given that our project activities target this group – we placed greater emphasis on understanding the particularities of the Roma community and on fostering engagement within marginalized social groups.

Special attention was also given to experimenting with and discussing various approaches.

Unlike the international training, we did not dedicate a specific session to sharing relevant projects; instead, participants shared their experiences and initiatives throughout the training during the group discussions. To optimize time management, some activities from the international training were omitted.

Day 1

Morning	<ul style="list-style-type: none">• Welcome & Introduction• Icebreaker & Training program• Expressing views on climate related scenarios: Discussion game• Lecture about Inclusion - recommendations for working with Roma communities
Afternoon	<ul style="list-style-type: none">• Taking emotions into account: Stinky fish• Approaches for inclusion: case studies on collaborating with Roma community• Conclusion of the first day

Day 2

Morning	<ul style="list-style-type: none">• Collective summary of day 1• Lecture about climate change, past mistakes and increase of vulnerability • Dialogue: analysis of diverse methods• Lecture about communication in a changing climate
Afternoon	<ul style="list-style-type: none">• Dialogue: analysis of diverse methods• Explaining resource about climate: tips to be understood and relevant for the audience • Encouraging action: Climate handprint• Individual action plan• Conclusion

4. Feedback of the participants

To evaluate the training, we conducted an evaluation questionnaire sent out at the end of the training, discussions in sub-groups at the end of the training, and individual interviews or focus groups several weeks after the training.

The training program enjoyed a high level of engagement. Questionnaires distributed at the end of the national trainings revealed that 97% of participants were satisfied or very satisfied and said that the training was useful and that they had learned from interacting with other participants. More than 90% said that they had achieved the training objectives and were more motivated to engage in inclusive educational activities on climate.

For the international meeting , that was online, the suggestions of improvement were adding informal time, having more time to discover concrete projects and better clarity of the programme. According to the participants, the strengths were the diversity of formats, the quality of the exchanges, the expert contributions and the balance between theory and practice. The group dynamics and teaching methods reinforced commitment and satisfaction.

"I feel like I'm part of a group and have the power to take action."

"A very rich format, both in terms of the tools and the exchanges with participants."

"I feel more confident about trying out new initiatives."

" Lots of interesting people, projects and approaches"

QUESTIONNAIRE

	very satisfied	satisfied	neither satisfied	not very satisfied	not at all satisfied
What is your overall level of satisfaction?	<input type="radio"/>				
How will this training impact your practices?				
What were the strengths of this training?				
What would you suggest to improve?				
USEFULNESS	totally agree	agree	no opinion	disagree	strongly disagree
The course met my initial expectations	<input type="radio"/>				
What I have learnt be useful to me	<input type="radio"/>				
I feel supported in creating new actions or adapting existing project	<input type="radio"/>				
CONTENT	totally agree	agree	no opinion	disagree	strongly disagree
The subjects covered were adapted to my professional context	<input type="radio"/>				
The level of content in-depth was appropriate	<input type="radio"/>				
The training has increased my motivation to lead inclusive educational actions on climate and environment	<input type="radio"/>				
PEDAGOGY	totally agree	agree	no opinion	disagree	strongly disagree
The balance between conceptual input and practical exercises was satisfactory	<input type="radio"/>				
The pace and duration were appropriate	<input type="radio"/>				
The training materials (documents, slides, mural, etc.) were useful for learning.	<input type="radio"/>				

QUESTIONNAIRE

TRAINERS	totally agree	agree	no opinion	disagree	strongly disagree
The trainers' knowledge and experience were satisfactory	<input type="radio"/>				
The trainers were available and willing to listen	<input type="radio"/>				
The explanations and instructions were clear	<input type="radio"/>				
GROUP	totally agree	agree	no opinion	disagree	strongly disagree
I was able to talk about one of my projects, my practices and my knowledge	<input type="radio"/>				
I had some interesting discussions with the other trainees	<input type="radio"/>				
The composition of the training group was appropriate (numbers, profiles)	<input type="radio"/>				
ORGANISATION	totally agree	agree	no opinion	disagree	strongly disagree
I received sufficient information about the course beforehand (programme, objectives)	<input type="radio"/>				
The material conditions were adequate	<input type="radio"/>				
I was able to use digital tools easily (with or without help)	<input type="radio"/>				

Inclusion, Environment, Science Education

ACTIVITY TOOLKIT

Inspiring activities with inclusive approaches
to environmental education for disadvantaged
adults developed in the Come Together Project



I. Summary

This Toolkit is a collection of all the educational activities designed and tested with different groups within Come Together project.

All the activities have been co-created with the different communities and are tailor made for a specific contexts, needs, facilitators and groups of people.

The Toolkit and the whole Project could not have been possible without the close collaboration between museum educators and community representatives in the different contexts: Roma, Ukrainian and Bosnian communities; community centers for homeless people or people experiencing psychological fragility; associations for prisoners; and organizations supporting young people in transition to employment or independent living.

The aim is to share the activities, the challenges and the learnings of the educators in order to stimulate other educators reflection and adaptation to other contexts and needs.

Each activity is presented trough a brief description of the group and the context in which it has been tested, along with guidance and advice on the context where it may work best or might be less effective.

In the variety of the activities presented some elements emerged as particular important and in common for all the activities: relationship and time.

In order to develop truly inclusive activities it has been fundamental establishing a relationship with participants to the activities. This need time in order know each other, listen the different voices, develop trust and space for free expression for reaching a common understanding and interpretation of the theme proposed with all the different interpretations of the different participants.

The activities proposed in this Toolkit are the opposite of what usually museums offer: standard one shot activities to different groups of people.

In Come Together project the activities developed are deeply rooted in the contexts where they emerged and have been tested and are specifically designed with and for that contexts. It is still important to share with other educators these specific activities because we believe that the elements proposed can be adapted to other contexts and communities and we need together to learn one by the other.

All the 21 different activities illustrated in the Toolkit emerged by the principles illustrated in the documents:

Guiding Principles

Training Guide

Note to museums

The activities in this Toolkit, though rooted in community spaces, offer inspiration for museums willing to take on a more sustained and relational role.

Beyond one-shot events, museums can nurture ongoing connections — hosting recurring activities, collaborating with local associations, and creating spaces of trust and care.

In this way, the museum becomes part of the community's fabric: not a place to visit once, but a place that listens, accompanies, and grows alongside its people.

1. Objectives of activities

The activities developed within the project aim to promote inclusive dialogue and creative engagement on climate change among socially and economically vulnerable adults through educational and artistic approaches.

The main objectives are to:

- increase participants' awareness of the links between climate change, social inequality, and resources exploitation;
- foster self-expression and mutual understanding through participatory and co-creative processes;
- strengthen social inclusion by connecting personal experiences with global environmental challenges;
- build bridges between scientific and artistic perspectives, using museum collections, hands-on educational activities and performative methods as catalysts for reflection;
- enhance facilitators' and educators' capacity to work with diverse audiences through body-based and dialogue-oriented methods.

Ultimately, the activities seek to empower participants to see themselves as active contributors to cultural and environmental transformation rather than passive recipients of knowledge.

2. Toolkit target audience

This Toolkit is intended for professionals working at the intersection of education, science communication, social engagement, and cultural mediation. It is particularly relevant for practitioners who collaborate with groups experiencing social or economic exclusion, or who address environmental and societal challenges through participatory approaches. At the same time, it offers inspiration and practical tools for facilitators, educators, and researchers who wish to deepen their skills in inclusive communication, co-creation, and experiential learning.

3. How to use this Toolkit

The Toolkit is structured so that each activity can be read and used independently. There is no need to follow a specific order: activities can be selected individually or combined to build a broader educational path.

Starting with the features summarized in Activities in brief, readers can identify the activities most relevant to their needs or interests. The activity sheets are intended as a source of inspiration: they provide a concrete reference, while also encouraging users to adapt and modify them according to their participants, resources, and objectives. They are therefore not a rigid manual, but a flexible tool for experimentation.

4. Activities in brief

Target group	Themes	Duration	Format	Location
1. Film screening and discussion: possible worlds and real injustices				
Adults experiencing social marginalisation and homelessness	Climate justice, migration, inequality, hope, political imagination, activism, care, small gestures	90-120 min	Film screening and moderated discussions	Community centre managed by Caritas Milano
2. Art workshop: drawing a changing nature				
Adults with migratory backgrounds or housing vulnerability	Nature, climate change, emotions, memory, artistic expression	60-75 min	Expressive art workshop	Community centre managed by Caritas Milano
3. Intercultural workshop: climate and the city: ideas for collective care				
Adults with migratory backgrounds or housing vulnerability	Climate change, urban space, rights, care, vulnerability, urban resilience	60 min	Intercultural dialogue and reflection workshop	Community centre managed by Caritas Milano
4. Poetry lab: poetry of the earth and difference				
Adults with migratory backgrounds or housing vulnerability	Climate change, identity, permanence, emotions, language, listening	60-75 min	Participatory poetry workshop	Community centre managed by Caritas Milano
5. Shadowgram: degrowth and dialogue				
Mixed audience museum visitors and marginalized groups	Degrowth and collective responsibility • Urban life, speed, and slowing down • Dialogue, community, and deep listening	2 sessions of 1 hour each	Participatory artistic workshop combining visual creation and dialogue	Museums, cultural festivals, or public events
6. The World in Balance. Dialogues on Sustainability				
Mixed audience, museum visitors and marginalized groups	Sustainability • human-Earth relationships • imagination and lived experience • needs and desires • collective reflection	90 min	Participatory workshop combining spatial transitions, collective listening, imaginative exploration, symbolic actions, and shared restitution.	Indoor open space allowing movement
7. From field to table: food, culture and community				
Roma people / Ethnic minorities / Migrants	Sustainable gardening • Herbalism, waste separation • Food waste • Roma cuisine • Common heritage	90 min	Dialogue-based workshops with practical testing	

Target group	Themes	Duration	Format	Location
8. Cooking traditions: sharing the heritage of food preparation				
Roma people / Ethnic minorities / Migrants	Evolution of food practices and traditions • Climate change and community resilience • Food, identity, and social stereotypes • Personal and intergenerational food memories • Preserving traditional knowledge for the future	50 min	Dialogue event	
9. Tastes of memory: exploring the heritage of Food and community				
Roma community and long-term unemployed individuals	Food production and consumption, heritage, environmental adaptation, societal adaptation, intergenerational transmission of knowledge.	90 min	Social theatre activities, a guided tour of the exhibition and a moderated discussion offering reflection on the explored themes	
10. Climate collages				
Unemployed or job-seeking women	Climate change and environment, migration, nature • Perceptions and relations to climate change • Creativity and imagination as a tool for dialogue	75 min	Workshop	Indoor space with calm atmosphere
11. CO2 experiments and discussion on climate change				
Unemployed or job-seeking women	Climate change, greenhouse effect, CO2 cycle, ocean acidification, climate protection, societal adaptation, political measures, climate justice	120 min	Hands-on scientific experiments + collaborative discussion game	Indoor space with calm atmosphere
12. A garden journey – exploring community, culture and ecology				
Bosnian and Ukrainian refugee women	Personal and traditional knowledge of plants and biodiversity • Community gardens, sustainability, and global-local perspectives • Climate change impacts and sustainable food practices • Cultural exchange and community participation	150-165 min	Dialogue event/ Conversational format and preparing a food as a joint activity	Intercultural community garden in the city center of Berlin
13. Connecting with nature: yoga, awareness and insect encounters				
Ukrainian refugee women	Climate change, environment, biodiversity loss, human-environment-relations, wild nature and its importance for urban ecosystems	120-150 min	Dialogue event and workshop	Outdoor/ green space, if possible actively managed by the city administration, meadow with wild plants, during spring/ summer/early fall, daytime, dry weather and mild temperature.

Target group	Themes	Duration	Format	Location
14. Protective beings – the superpowers of nature				
Ukrainian refugee women and children	Personal and cultural relationships with nature and animals • Biodiversity, species survival, and urban ecosystems • Local and global perspectives on human–animal coexistence • Cultural and ecological impacts of climate change	150 min	Dialogue event and hands-on workshop	Museum: exhibition, indoor workshop space
15. Exploring the Stadtheide – Nature and connection				
Ukrainian refugees	Urban biodiversity and the ecological value of wild plants • Cultural meanings and traditional knowledge of herbs and flowers • Use of digital tools for observing nature	120 min	Dialogical tour and interactive, artistic workshop	An accessible outdoor space, characterized by wild meadows and plants. Ideally, the green space would be home to various insects and birds
16. Exploring nature at Kienbergpark				
Adults and children	Sensory awareness and connection with natural environments • Human–nature relationships and environmental care • Role of urban green spaces in sustainability • Responsible use of natural resources and collective climate action	120 min	Interactive guided tour with creative exercise	The activity was carried out on an accessible outdoor space, characterized by wild meadows and plants. A teaching garden is also part of the park and was used to introduce various wild and cultural plants as well as for exploring insects.
17. Performative mapping – A walk at the river Spree				
Ukrainian and Bosnian refugee women	Environmental justice and resource use, embodied and sensory experience of the environment, importance and fragility of urban ecosystems in the context of climate change, creative expression as a way to connect with other people and the environment	150 min	Guided performative walk, creative conversational	A natural environment near a river or another public resource of nature (e.g. green space or lake). Access to not too crowded outdoor spaces for walking and reflection is needed as well.
18. From aztec Chinampas to urban hydroponics				
Ukrainian refugees, adults and children	Principles of sustainable and urban farming • Traditional agriculture and climate resilience • Biodiversity and healthy ecosystems • Water saving and recycling in food production • Everyday applications of sustainable practices	120 min	Dialogical tour with hands-on experiences	A combination of indoor and outdoor spaces, allowing for both theoretical input and practical demonstration. The indoor space should be accessible, quiet, and equipped with basic presentation tools (e.g. projector, seating, flipcharts).

Target group	Themes	Duration	Format	Location
19. Reclaiming the ocean: Māori cosmology, art and upcycling				
Ukrainian refugee, women and children	Māori worldview and cultural connection to the ocean • Plastic pollution, marine ecosystems, and sustainability • Indigenous art, mythology, and environmental storytelling • Colonial histories and perspectives on climate justice	120 min	Dialogical tour and upcycling workshop	A separate workshop space with tables, chairs, and enough room for crafting Bean bags
20. Indigenous knowledge for sustainable futures				
Ukrainian refugee women and children	Indigenous and spiritual worldviews on nature as living and sacred • Sustainable and traditional ecological practices • Human–nature relationships and environmental ethics • Creative and collaborative storytelling through body and theatre	135 min	Dialogical tour, theatre workshop and future storytelling	<ul style="list-style-type: none"> • Exhibition space with objects, photographs, images or other visual material related to the topic of the guided tour. • Bean bags, floor cushions or other soft seating help create a cozy and personal atmosphere to reduce possible inhibitions during the discussion and theatre exercises. • But chairs will work, too.
21. Giving voice to climate: participants as science communicators				
Prisoners	Climate change, environmental issues	4-6 x 2 hours	Co-creation of an exhibition, exchange with expert	In community centers, social institutions, museums, or correctional settings
22. Building an interactive map to explore local biodiversity				
School drop-outs and other young adults looking for a job/training/further education	Biodiversity, local fauna, local species and their habitats, species identification, climate, history.	4 x 3 hours	Workshop, outdoor explorations, manual activities, exchange with expert	Establishment center for employment integration

5. Educational activities evaluation tools

To better understand the impact of the Come Together activities, three complementary evaluation tools were used:

- a participant questionnaire
- an observation sheet, and
- an interview guide for facilitators and professionals.

Each tool explores a different level of the process:

- The questionnaire captures participants' perceptions, feelings, and reflections immediately after the activity.
- The observation sheet focuses on the relationship between facilitators and the audience, analysing dynamics of dialogue, participation, and emotional engagement.
- The interviews invite facilitators and operators to reflect on how the co-design and delivery of the activities have influenced their professional practice and their understanding of inclusion, participation, and dialogue.

This combined framework allows educators to capture both the individual and collective dimensions of learning, offering the possibility to assess how embodied and participatory practices can foster inclusion and engagement for climate action.

II. Activity descriptions

Note on timing and descriptive structure:

The structure and level of detail in the activity descriptions may vary from one partner to another. This diversity reflects the different educational and institutional contexts in which the activities were developed — from museums to community centres, from intercultural hubs to associations supporting vulnerable groups.

Some activities are described through precise timeframes and step-by-step sequences; others are narrated more freely, emphasizing atmosphere, relationships, or collective processes. This variety has been intentionally preserved, as it mirrors the multiplicity of facilitation styles and learning rhythms that shaped the project.

Rather than prescribing a single model, these descriptions aim to convey the spirit of each activity — its flow, tone, and participatory dynamics — so that educators can reinterpret and adapt them according to their own contexts and audiences.

1. Film screening and discussion: possible worlds and real injustices

Designed and tested by: La Piazzetta community centre (Caritas Milano) and National Museum of Science and Technology "Leonardo da Vinci", Milan, Italy

In brief

Duration	90-120 min
Number of participants	5-15
Number of facilitators	1-2
Special materials	A film for screening, Screen and sound system
Objectives	<ul style="list-style-type: none">• Use cinematic storytelling to stimulate reflections on climate and social justice• Connect dystopian or realistic imaginaries to everyday experiences• Foster peer-to-peer dialogue in a safe and welcoming space
Tested with	Adults experiencing social marginalisation and homelessness

OVERVIEW

Through the screening of Waterworld (or other films exploring extreme climate scenarios such as Woman at War), participants are invited to reflect on themes of environmental and social justice. The discussion focuses on how these fictional worlds resonate with real experiences of inequality and resilience.

Through the screening of Waterworld (or other films portraying extreme climate scenarios such as Woman at War), participants are invited to reflect on the themes that resonate most with them, especially those related to environmental and social (in)justice and collective resilience.

Context

The activity took place at La Piazzetta, a community centre managed by Caritas Milano that supports adults facing social and economic vulnerability.

Participants included regular visitors to the centre - people experiencing unemployment, housing insecurity, or migration-related challenges - who joined the sessions in an informal setting designed to foster trust, openness, and collective reflection on the relationship between people. The center has a structured weekly program of activities, and our collaboration resulted in designing a re-adaptation of their activities to the themes of the Come Together project.

SUGGESTED SCENARIOS

Community room or informal space with comfortable seating. The activity is drop in, participants are free to come and go. The atmosphere should be welcoming and non-judgmental.

Description

The facilitators briefly introduce the film, highlighting the core themes. After the screening, they propose an open discussion guided by questions that encourage participants to share their ideas and personal experiences related to different themes movie suggested. For our visions they were: justice, exclusion, and paths of resistance, as well as extreme weather events and visions of possible futures.

TIMING

- Introduction: 10 min
- Film screening: 60–90 min (full or selected scenes)
- Discussion: 20–30 min

Materials	Settings	Topics
<ul style="list-style-type: none">• Selected film (e.g. Waterworld, Wall-E, Woman at War)• Screen and sound system• Printed or projected guiding questions	No specific setting is required for this activity	Climate justice, migration, inequality, hope, political imagination, activism, care, small gestures

REFLECTION QUESTIONS

How do you value participants' experience?

Participants' experiences were valued through guided discussion and emotional reflection.

After the screening, facilitators invited participants to connect the film's themes with their personal sense of injustice, inequality, or hope. To inspire this connection a series of questions have been used:

- Did you identify with any character? Why?
- Who is protected in the film, and who is not?
- What emotions did the film leave you with?
- Did you notice characters who represent different ways of reacting to injustice?
- Did you spot any symbolic elements or seemingly comical situations with a deeper meaning?

Each voice was recognised as a legitimate interpretation rather than a "correct" reading of the film. Facilitators encouraged participants to relate scenes to real-life experiences or news events familiar to them, supporting ownership of meaning.

The activity fostered critical thinking through empathy and comparison between lived experiences and fictional narratives.

Facilitator's learnings

- Value emotional reactions as entry points to complex topics.
- Avoid academic language; start from the participant's point of view.
- Recognise that disagreement or discomfort may indicate deep engagement.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

The screening was followed by a collective discussion, moderated by center's educators.

This activity could also host the presence of an expert (such as researchers or filmmakers) to react to participants' comments rather than deliver a talk.

Facilitators tried to maintain the conversation on the theme and balanced it by ensuring diverse perspectives — scientific, artistic, and personal — could coexist.

This dialogical setting created mutual listening rather than a hierarchical exchange.

Facilitator's learnings

- Use open-ended questions to trigger authentic dialogue.
- Encourage experts to respond with curiosity rather than correction.
- Create an atmosphere where silence and reflection are also part of the dialogue.

FACILITATOR'S NOTES

- The film creates a shared space for emotional engagement and critical thinking
- Collective viewing strengthens group cohesion
- A final moment of open sharing, writing or drawing is recommended
- Including films with female protagonists and themes of care (e.g. Woman at War) helps explore diverse approaches to change and justice

Appendix

When this activity is suitable

- In community spaces with an open and informal atmosphere that encourages conversation.
- When participants seek meaningful dialogue and recognition of their own experiences through the shared viewing of a film.
- When the film acts as a catalyst for reflection and exchange, not as the main goal of the meeting.

When this activity is less suitable

- When participants attend mainly for comfort or shelter, without interest in dialogue or exchange.
- In contexts where the group is newly formed and trust has not yet been established.
- When the film topic or tone is too distant, abstract, or heavy for the audience's lived experience.
- When the discussion is treated as an add-on rather than as the central relational and reflective moment.

2. Art workshop: drawing a changing nature

Designed and tested by: La Piazzetta community centre (Caritas Milano) and National Museum of Science and Technology "Leonardo da Vinci", Milan, Italy

In brief

Duration	60–75 min
Number of participants	6-12
Number of facilitators	1-2
Special materials	Videos on climate change consequences (with projector/screen if needed)
Objectives	<ul style="list-style-type: none">• Encourage personal and creative reflection on nature• Support non-verbal expression through artistic means• Connect personal experiences to global environmental issues
Tested with	Adults in situations of social vulnerability and homelessness

OVERVIEW

Through guided and free drawing, participants reflect on the meaning of nature and on the environmental transformations linked to climate change.

The activity encourages both individual and collective expression through visual language.

Context

The activity took place at La Piazzetta, a community center managed by Caritas Milano that supports adults facing social and economic vulnerability.

Participants included regular visitors to the center, people experiencing unemployment, housing insecurity, or migration-related challenges, who joined the sessions in an informal setting designed to foster trust, openness, and collective reflection on the relationship between people. The center has a structured weekly program of activities, and our collaboration resulted in designing a re-adaptation of their activities to the themes of the Come Together project. A date was chosen that coincided with an international day with a coherent theme, May 21st, World Day for Cultural Diversity for Dialogue and Development, to ensure that the preceding weeks could be dedicated to themes encompassing sustainability and inclusion.

SUGGESTED SCENARIOS

Welcoming space with tables and chairs. Participants work individually but can share in a group setting.

Description

An art workshop held one day per week in la Piazzetta, for two weeks the topic have been climate change.

In the first day, participants are invited to reflect on the question: "What does nature mean to me?" They start from this question to create drawings using colored pencils, tempera, watercolors, and other expressive tools.

In the second day, they observe and comment on the previous artworks. Then, after watching videos on the consequences of climate change, they are encouraged to share if they have

experienced extreme weather events (floods, drought, heatwaves...) either in their country of origin or where they live now. They are invited to visually represent those experiences or imagine how the city and nature might be transformed by climate change.

To stimulate reflection and connect personal experience with broader environmental themes, facilitators proposed a set of guiding questions:

- What does nature represent for me?
- How do I imagine the city or the land in 20 years?
- What struck me the most from the images or videos?

TIMING

- Introduction and initial reflection: 10 min
- Drawing activity: 30–40 min
- Collective observation and sharing: 20–25 min

Materials	Settings	Topics
<ul style="list-style-type: none"> • A4 and A3 sheets • Colored pencils, markers, tempera, watercolors • Videos on climate change consequences (with projector/screen if needed) 	No specific setting is required for this activity	Nature, climate change, emotions, memory, artistic expression

REFLECTION QUESTIONS

How do you value participants' experience?

Facilitators invited participants to represent the transformations of nature they observed, stimulating them to express their perception and emotional response. Personal memories of landscapes, seasons, and environmental changes became central materials for creation. The process gave space to those with limited artistic confidence, focusing on gestures, textures, and the act of noticing. Each drawing was treated as a personal statement on environmental change, connecting lived experience and imagination..

Facilitator's learnings

- Emphasise process and valuing ideas over artistic skill.
- Use drawing as a tool for reflection, not aesthetic judgment.
- Recognise small details or mistakes as expressive and meaningful.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

The workshop fostered dialogue through collective observation and shared commentary. Facilitators alternated moments of silence and exchange, encouraging participants to verbalise what they saw in others' drawings and listening one each other. When artists or scientists were involved, they joined as co-observers, describing what the images revealed rather than evaluating the artistic quality of the images. This approach turned observation itself into a form of conversation.

Facilitator's learnings

- Alternate visual and verbal dialogue to keep all participants included.
- Ask questions about perception ("What do you notice?") instead of technique.
- When experts are present, involve them as learners within the group.

FACILITATOR'S NOTES

- Drawing allows expression beyond verbal limits.
- Visual comparison reinforces a sense of shared experience.
- Images can spark meaningful autobiographical storytelling.

Appendix

When this activity is suitable

- When the space is safe and the climate is trustworthy.
- When at least some of the participants know each other enough to feel free to express personal interpretation and emotional sharing.
- In informal settings where the process of creation is valued more than the aesthetic result.

When this activity is less suitable

- When the all group participants do not know each other , and they may feel exposed or judged when drawing.
- When time is too limited to create a calm and reflective atmosphere.
- In contexts where participants expect formal teaching rather than open expression.

3. Intercultural workshop: Climate and the city

Designed and tested by: La Piazzetta community centre (Caritas Milano) and National Museum of Science and Technology "Leonardo da Vinci", Milan, Italy

In brief

Duration	60–75 min
Number of participants	6-12
Number of facilitators	1-2
Special materials	<ul style="list-style-type: none">Whiteboard or large sheets for idea collectionOptional thematic images or visual materials
Objectives	<ul style="list-style-type: none">Stimulate active participation and mutual listeningConnect climate issues to daily and local experiencesGenerate ideas and identify needs related to urban life and collective care
Tested with	Adults with migratory backgrounds or housing vulnerability

OVERVIEW

Through a guided discussion on climate change and its effects in urban areas, participants share ideas and proposals on how to protect the most vulnerable people, drawing on personal experiences and diverse perspectives.

Context

The activity took place at La Piazzetta, a community centre managed by Caritas Milano that supports adults facing social and economic vulnerability.

Participants included regular visitors to the centre - people experiencing unemployment, housing insecurity, or migration-related challenges - who joined the sessions in an informal setting designed to foster trust, openness, and collective reflection on the relationship between people. The center has a structured weekly program of activities, and our collaboration resulted in designing a re-adaptation of their activities to the themes of the Come Together project.

The activity took place in occasion of the World Day for Cultural Diversity for Dialogue and Development (21 May), to allow educators and participants to dedicate the weeks leading

up to this day to themes encompassing sustainability and inclusion.

SUGGESTED SCENARIOS

Welcoming space with chairs in a circle or around a table.

The activity can also take place outdoors.

Description

The facilitator introduces the question: "What can we do to protect people experiencing homelessness from the effects of climate change in the city?" After an initial free brainstorming, participants are invited to share experiences and observations about extreme weather events (heavy rains, heatwaves, floods...) witnessed in the city or in their countries of origin.

The group then reflects and develops ideas on what can be done at both individual and collective levels, starting from a central question and using optional tools such as worksheets, images, or mind maps.

To stimulate reflection and connect personal experience with broader environmental themes, facilitators proposed a set of guiding questions:

- How does climate change affect life in the city?
- Who is most exposed to its consequences?
- What can we do to protect each other concretely?

TIMING

- Introduction and activation – 10 min
- Collection of ideas, experiences, reflections – 25 min
- Group discussion on solutions and needs – 20 min
- Final sharing – 5 min

Materials	Settings	Topics
<ul style="list-style-type: none">• Whiteboard or large sheets for idea collection• Colored markers• Optional thematic images or visual materials	<p>No specific setting is required for this activity. What matters most is creating a welcoming and inclusive atmosphere where participants feel comfortable to share their views and experiences about the city, community, and environment.</p>	<ul style="list-style-type: none">• Climate change,• Urban space,• Rights• Care• Vulnerability• Urban resilience

REFLECTION QUESTIONS

How do you value participants' experience?

Facilitators encouraged participants to reflect on their daily relationship with the city - how they experience, cross, and imagine it. The activity valued personal perspectives over theoretical knowledge, allowing stories of neighbourhoods, daily routines, and moments of solidarity or exclusion to emerge.

Memories, emotions, and individual reflections became materials for collective sense-making about urban life and care. By giving space to personal narratives, the activity fostered recognition and dignity - especially for those whose experiences of homelessness or vulnerability often remain unseen in public discourse.

Facilitator's learnings

- Begin from lived experiences and everyday realities rather than abstract discussions on climate or society.
- Use open-ended prompts to invite reflection without pressure to perform or agree.
- Treat personal stories, silence, and listening as equally meaningful contributions.
- Acknowledge the emotional and relational dimensions of talking about "care" in the city.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Dialogue was conducted in plenary, with all participants and facilitators seated in a circle to ensure equal participation. Members of the Museum team who had taken part in the co-design process acted as resource persons - not external experts, but peers who could deepen certain concepts or connect reflections to broader perspectives.

This open format encouraged spontaneous exchange: participants responded directly to each other's ideas, while facilitators helped weave connections and keep the dialogue inclusive and respectful. The process aimed to create a shared space of thought, where everyone could

contribute from their own standpoint and experience.

Facilitator's learnings

- Keep the dialogue in plenary to maintain a sense of shared space and equality.
- Use paraphrasing and summarising to connect participants' contributions without taking control.
- Recognise the dual role of facilitators as both listeners and contributors with contextual knowledge.
- Maintain an atmosphere of openness and trust, where disagreement can coexist with mutual respect.

FACILITATOR'S NOTES

- The dialogic and participatory format values a diversity of experiences.
- The solutions proposed can inspire future practical activities.
- Focusing on the city makes the climate topic feel immediate and relevant.

Appendix

When this activity is suitable

- When participants are familiar with one another and the space provides an atmosphere of safety, trust, and informal exchange.
- When facilitators wish to use dialogue and reflection to explore participants' lived experiences of the city and belonging.
- When the aim is to strengthen relationships and dignity through participation and recognition of each person's contribution.

When this activity is less suitable

- With large groups or participants unfamiliar with open dialogue formats
- When the group is new, unstable, or not yet ready to engage in open dialogue about personal or social experiences.

4. Poetry lab: poetry of the earth and difference

Designed and tested by: La Piazzetta community centre (Caritas Milano) and National Museum of Science and Technology "Leonardo da Vinci", Milan, Italy

In brief

Duration	60–75 min
Number of participants	4-10
Number of facilitators	1-2
Special materials	<ul style="list-style-type: none">• Copies of the last page of the workshop diary• Copies of the poem
Objectives	<ul style="list-style-type: none">• Offer a shared experience of poetic listening• Highlight the expressive power of poetic language beyond literal understanding• Foster reflection on identity, environment, and inner permanence• Use lyrics as a way to stimulate personal experiences, memories, ideas and emotions sharing.
Tested with	Adults experiencing homelessness, migrants, people with lived experiences of exclusion

OVERVIEW

Through the shared listening and collective analysis of an evocative poem, participants explore how they relate with Earth, body, transformation, emphasizing the musicality of language and the emotional strength of poetic expression.

Context

The activity took place at La Piazzetta, a community centre managed by Caritas Milano that supports adults facing social and economic vulnerability.

Participants included regular visitors to the centre—people experiencing unemployment, housing insecurity, or migration-related challenges—who joined the sessions in an informal setting designed to foster trust, openness, and collective reflection on the relationship between people. The center has a structured weekly program of activities, and our collaboration resulted in designing a re-adaptation of their activities to the themes of the Come Together project. A date was chosen that coincided with an international day with a coherent theme, May 21st, World Day for Cultural Diversity for Dialogue and Development, to ensure that the preceding weeks could be dedicated to themes encompassing sustainability and inclusion.

SUGGESTED SCENARIOS

A calm and intimate space with chairs arranged in a circle or semicircle. Some participants may prefer to listen in silence, even sitting slightly apart. The atmosphere is welcoming and non-judgmental.

Description

The educator resumes what happened in the previous meetings; this type of activity require continuity and consistency and a "logbook" can be a fundamental tool to support and confirm these characteristics.

This is particularly important when participants are not stable and change from time to time, like the case of the homeless people in some case the continuity of the meetings during the weeks and the years allow the establishment of a relation with some of the participants who contribute more easily to the activity thanks this relation and help the educator to stimulate the participation of the new comers. For this reason, the activity begins with the reading of the logbook by the educator who ask for comments to who took part to the previous meeting, then the educator presents the themes of the poetry of the day and the read aloud the poem (for example "Ciò che non muta io canto" by Mariangela Gualtieri, from the collection Bestia di gioia (2010) in English "Beast of Joy: Selected Poems" (2018) Eng. Ed. Mariangela Gualtieri (Author), Anthony Molino (Translator), Cristinia Viti (Translator)).

A collective conversation follows, the most evocative words and passages, the musicality of the text, the rhymes, and the images evoked are commented on.

Many participants to the activity were not fluent in Italian language although the educator unlighted the powerful of the poem as a song, that can speak to the heart even without a full understanding of the language thanks its beauty and musicality. Poetry is proposed as a form of resistance to the difficulties faced by participant in daily life and as an talking to them as people with ideas and feeling instead of identifying them simply with their needs.

TIMING

- Reading the logbook and recall the workshop's themes - 10 min
- Introduction and poetry reading - 15 min
- Collective resonance and evocative analysis - 30 min
- Final open reflections and closure (in a circle, holding hands, expressing gratitude) - 15–20 min

Materials	Settings	Topics
<ul style="list-style-type: none">• Copies of the last page of the workshop diary• Copies of the poem. (A translation of Ciò che non muta io canto, the poems read during the test, is available in this bilingual edition: Beast of Joy: Selected Poems, Mariangela Gualtieri, Chelsea Editions, 2018, translated from the Italian by Anthony Molino and Chrstinia Viti.)	A quiet, welcoming space – a trusting and established relationship with educators. The regularity of the meetings over the weeks and the years is essential for meaningful outcomes. The success of the activity depends greatly on the space, the educators' skills, and regularity of the meetings.	<ul style="list-style-type: none">• Climate change• Identity• Permanence• Emotions• Language• Listening.

REFLECTION QUESTIONS

How do you value participants' experience?

The poetry lab valued participants' linguistic diversity and emotional expression.

Facilitators encouraged the use of multiple languages, dialects, or hybrid forms, showing that every linguistic gesture carries meaning. The act of reading aloud transformed personal words into shared emotion, creating a collective soundscape. Not in this specific context, but during these workshop meetings, the life experiences of the participants – of migration, memory or care – became the invisible material of a collectively written poem. During the collective reading and discussion phase, facilitators encouraged participants to explore the emotional and sensory dimensions of the selected poems rather than focusing on formal interpretation.

To guide this process, they invited participants to reflect through a few open questions:

- Which word or phrase impressed you?
- What image did the poem evoke for you?
- What sound or rhythm struck you?

These questions were designed to help participants connect the poem to their own memories, emotions, and experiences.

Rather than searching for a "correct" meaning, the emphasis was on what each person perceived and felt – allowing individual resonances to become shared insights within the group. Through this approach, personal experience was recognised as a central interpretive lens, turning the reading into a collective act of self-expression and mutual recognition.

Facilitator's learnings

- Recognise language as identity, not just as a communication tool.
- Value non-linear, non-standard, or multilingual expression.
- Create a safe emotional space before proposing public reading.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Dialogue in the Poetry Lab emerged more through exchange rather than analysis.

During the shared reading, facilitator invited participants to react freely – describing the images or emotions that the poems evoked and, when they wished, sharing other texts or verses they knew that resonated with similar themes.

This often brought to light poems, songs, and prayers from participants' cultural or religious backgrounds – from North Africa, Eastern Europe, South America, and Southern Italy – transforming the session into a space of reciprocal learning.

Facilitator not only interpreted, but also listened and asked clarifying or comparative questions:

- What does this remind you of?
- Is there a similar image in your language or culture?

In this way, the poems proposed by the facilitators became starting points for a broader dialogue where everyone – regardless of language or literacy level – could contribute meaning, emotion, and memory.

The exchange moved naturally between voices, with participants and facilitators alternating in proposing and commenting, building together a shared poetic and cultural landscape.

Facilitator's learnings

- Use poems as bridges between languages, traditions, and personal stories.
- Use collective reading as a moment of equality.
- Let participants introduce their own cultural materials when resonance arises.
- Maintain openness: dialogue grows when interpretation is shared, not guided.
- Recognise that in multilingual and intercultural groups, poetry becomes a common ground rather than a subject to be taught.

FACILITATOR'S NOTES

- Listening to poetry opens interior spaces even without rational mediation.
- The orality and musicality of the text are accessible even to those with language barriers.
- The activity fosters a sense of belonging and mutual respect.
- Allowing people to express themselves is a powerful learning tool. Sharing, listening, and verbalising emotions and experiences are deeply transformative, but require careful facilitation. The educator's sensitivity is essential to balance moments that could otherwise become overwhelming or superficial, diminishing the value of the experience.

Appendix

When this activity is suitable

- When the workshop has regular meetings and the educators is able to establish a relationship with the participants
- When the group is open to listening and emotional resonance
- When the space is safe and the climate is trustworthy,
- When the atmosphere and environment provide refreshment for both body and mind.

When this activity is less suitable

- When there is high restlessness or rejection of poetic language and one-shot sessions
- When the educator is not confident with using poetry with people who does not interpret perfectly the language.

5. Shadowgram: growth and dialogue

Designed and tested by: National Museum of Science and Technology
"Leonardo da Vinci", Milan, Italy

In brief

Duration	60–90 min
Number of participants	10-20
Number of facilitators	1-2
Special materials	<ul style="list-style-type: none">• a film for screening• Screen and sound system
Objectives	<ul style="list-style-type: none">• To encourage participants to reflect on the concepts of degrowth and dialogue through artistic and participatory processes• To create a space of encounter between people from different social and cultural backgrounds• To promote awareness of personal and collective values through self-representation• To integrate artistic, reflective, and dialogical methods within a museum context• To foster non-formal interaction between museum visitors and community participants• To stimulate the experts to listen and contextualize personal knowledge of participants in the wider expert's reflection about the topics
Tested with	Mixed audience museum visitors and marginalized groups, tested twice in occasion of the European Researchers' Night 2025

OVERVIEW

Shadowgram: degrowth and dialogue is a participatory visual workshop inviting participants to reflect on social and environmental themes through the creation of silhouette portraits and collective discussion.

Participants explore the social and emotional dimensions of proposed theme through theatre-based exercises, group creation, and the production of silhouette images (shadowgrams). The activity has been tested during the European Researchers' Night for exploring the themes of degrowth and dialogue, using the act of creating and displaying silhouettes as a metaphor for visibility, voice, and interconnection. The session culminated in a shared reflection led by an expert, who explore the connection between the images and performances to broader reflections on the topics.

Context

The activity was tested at the National Museum of Science and Technology during the European Researchers' Night.

It involved a mixed audience, including visitors attending the public event and a small group of participants from Casa della Carità, a social centre working with adults in vulnerable situations.

Two two-hour sessions focused respectively on degrowth and dialogue. The first part of each session engaged participants in creative and reflective exercises leading to the production of their silhouette images, while the second part included an open discussion with an invited expert. The combination of museum visitors and community participants created a rich space for exchange between different experiences and perspectives, turning the artistic activity into a shared reflection on social and environmental imagination.

SUGGESTED SCENARIOS

Ideal for museums, cultural festivals, or public events that combine creative engagement with thematic reflection. It can also be implemented in community hubs or educational programs seeking to bridge artistic expression and social dialogue.

Description

The session combines body-based exercises, sociometric movement, group creation, and visual expression through the shadowgram technique. Participants move from physical warm-up to expressive tableaux, which are photographed, printed, and collectively displayed. The silhouettes and captions then serve as starting points for a facilitated discussion on the chosen theme, degrowth and dialog in our case.

TIMING

Example theme: "Imagining the City of the Future" – The examples below can be replaced with any topic exploring collective imagination, emotions, or values.

5 min	<p>Introduction Welcome participants and introduce the idea of exploring a shared theme through movement and silhouettes. Example: imagining the *future city* – how we live together, what we build, what we miss. Explain the Shadowgram process and its goal: to create a collective visual map of perceptions and emotions. Purpose/Focus: set a reflective and participatory tone; connect personal and collective imaginaries.</p>
10 min	<p>Theatre warm-up Short body and rhythm exercises inspired by theatre: walk as if the city were asleep / rushing / breathing / flooded with light. Encourage participants to play with tempo, distance, and posture. Purpose/Focus: build trust, presence, and embodied awareness.</p>
10-15 min	<p>Corporeal sociometry Participants move across the space according to opposite prompts, such as:<ul style="list-style-type: none">• "Who imagines the city of the future as fast / slow?"• "Who sees it full of nature / full of technology?"• "Who feels hopeful / worried about it?"They briefly share why they chose that position. Purpose/Focus: highlight diversity of perspectives; make abstract ideas tangible through movement.</p>

15 min	<p>Group creation – Tableaux vivants</p> <p>In small groups (3–5), participants create static "living pictures" expressing a shared feeling or vision, e.g.: "a city without noise," "a place where people repair things," "a city overtaken by trees."</p> <p>Purpose/Focus: encourage cooperation and visual storytelling; translate emotions into symbolic forms.</p>
10-15 min	<p>Shadowgram creation</p> <p>Each tableau is photographed as a silhouette and arranged into a collective composition — *the Atlas of Futures*. Groups can add short captions or questions ("What is worth preserving?", "Can progress slow down?").</p> <p>Purpose/Focus: turn ephemeral gestures into a shared visual artefact; connect imagination and reflection.</p>
10 min	<p>Reflection and closure</p> <p>Participants observe and comment on the silhouettes: what they recognize, what surprises them. They can write comments or questions on post-its ("One thing I'd like to keep from this world," "One thing I'd change"). Final collective sharing.</p> <p>Purpose/Focus: deepen reflection and dialogue; integrate personal and collective insights.</p>

The Shadowgram format can be adapted to many educational or participatory settings.

Below are examples of alternative themes that facilitators may explore:

- Degrowth and desires – exploring what we can renounce or rediscover.
- Dialogue and deep listening – expressing how we speak, listen, and create meaning together.
- Time and slowness – perceiving rhythm and change in everyday life.
- Fragility and strength – representing vulnerability as a resource for connection.
- Hospitality and care - imagining gestures and postures of welcome, presence, and mutual support.
- Belonging and exclusion - mapping how we move toward or away from others in shared spaces.
- Difference and coexistence - discovering how diversity shapes our ways of being together.
- Accessibility and empathy - representing barriers and bridges, how inclusion feels in the body.
- Trust and vulnerability - exploring how confidence is built through openness and shared fragility.

Materials	Settings	Topics
<ul style="list-style-type: none"> • Big and white wall • Webcam and printer for silhouette creation • P5.js code to produce shadow https://editor.p5js.org/fabbrista/sketches/KK-4gIMvW • Paper sheets, scissors, adhesive tape • Large board or wall for display • Post-it notes for captions and questions • Space for movement and group creation 	<p>A flexible space was for body exercises, light projection, and discussion. Printed silhouettes were exhibited on a collective board, allowing participants to see their creations as part of a larger visual conversation.</p>	<ul style="list-style-type: none"> • Degrowth and collective responsibility • Urban life, speed, and slowing down • Dialogue, community, and deep listening

REFLECTION QUESTIONS

How do you value participants' experience?

Participants' experiences were valued through artistic creation, reflective conversation and dialogue with an expert. The shadowgram technique allowed each person to express identity and perspective through body posture and silhouette, without needing verbal explanation. This non-verbal medium gave equal presence to all participants, including those less comfortable speaking. The group discussion connected individual images to collective questions about degrowth, justice, and shared futures. Facilitators and experts recognised both artistic and emotional contributions as valuable forms of knowledge.

Facilitator's learnings

- Use creative methods to balance verbal and non-verbal participation.
- Allow time for observation and interpretation before asking questions.
- Treat artistic output as a starting point for collective meaning-making.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Two sessions were designed to alternate artistic creation and thematic reflection.

In the second session expert joined connecting participants' images and words to social concepts. Expert contribution was dialogical, building on what participants had already produced rather than introducing external theory. The mixture of museum visitors and community participants encouraged authentic exchange across social boundaries.

Facilitator's learnings

- Integrate experts after participants' ideas have emerged, not before.
- Maintain balance between structure and openness in group dialogue.
- Recognise diversity as a strength: multiple publics generate richer discussion.

INSIGHTS

The Shadowgram format proved effective in connecting different audiences through embodied and visual practices.

The progressive structure - from movement to reflection - encouraged participants to shift from instinctive reactions to conceptual understanding. The collaboration between the Museum team and the experts successfully linked creative expression with critical analysis, helping participants see degrowth not as deprivation but as transformation. The presence of guests from Casa della Carità added authenticity and depth to the dialogue, while the open museum context invited spontaneous participation from visitors.

- The physical exercises help to dissolve social barriers.
- Keep transitions clear between artistic and reflective moments to maintain focus.
- Encourage participants to share emotions during the sociometric and tableau phases.
- Allow time for spontaneous contributions during the dialogue - these often generate the richest insights.

Appendix

When this activity is suitable

- When exploring social or environmental themes in public or mixed-group contexts
- When space allows for both movement and projection/display
- When facilitators can integrate artistic and reflective methods

When this activity is less suitable

- When the available time is under 90 minutes
- When participants are uncomfortable with body movement or photography
- When lighting or space cannot be adapted for silhouettes and group work

Additional resources

TIM Toolkit. A practical guide output of the Theatre in Mathematics project produced by SCT Centre, describing in detail many theatre exercise, part of the TIM methodology.
<https://old.theatreinmath.eu/outputs/tim-methodology/>

6. The World in Balance. Dialogues on Sustainability

Designed and tested by: Museo Nazionale Scienza e Tecnologia Leonardo da Vinci & Casa della Carità – Theatre Group

In brief

Duration	90 min
Number of participants	20-40
Number of facilitators	2-4
Special materials	Inflatable writable globe, floor circle, post-its, printed words, small symbolic objects
Objectives	<ul style="list-style-type: none">• Publicly share the pathway carried out• Activate dialogue and listening between the group and museum visitors• Introduce systemic perspectives on human–Earth relationships• Create a temporary sense of community• Demonstrate participatory facilitation practices led by vulnerable groups
Tested with	General museum visitors (adults and young adults)

OVERVIEW

A public-facing laboratory in which participants from Casa della Carità guide museum visitors through a shared journey of desires, needs and possibilities, symbolically bringing the World "on stage" to speak and listen.

A performative experience in which the Earth symbolically speaks while participants respond with gestures, movement and spatial choices.

Visitors are guided through the core themes explored during the pathway: desires, needs, the speaking world, and collective possibilities.

Context

The World in Balance emerges from a four-session exploratory pathway in which participants navigated imagination, lived experience and symbolic perspective-taking. The process was intentionally divergent: each session opened new possibilities rather than moving toward a predefined outcome.

It began with a Desired World, an imaginative landscape shaped by dreams and longings. It then shifted into the World of Needs, where selected images and shared reflections grounded the group in more concrete conditions of life. A third phase introduced the Speaking World, a poetic voice of the Earth that invited participants to step briefly outside their own biographies and experiment with alternative viewpoints. The final session combined personal photographs, synthesis and a perspective-taking exercise that revealed both the richness and the difficulty of shifting out of one's own lived experience.

The pathway highlighted strong creative potential, moments of genuine insight and some clear limits—especially when working with groups living complex forms of vulnerability. Rather than producing a finished format, it generated a set of promising elements: symbolic transitions, collective listening, embodied metaphors and tools for surfacing desires and needs.

The World in Balance translates these elements into an early-stage, museum-oriented laboratory. It is not a definitive model, but a prototype with significant potential. Our intention is to refine and test it with different groups and school classes, understanding how each context reshapes the experience and which components support meaningful participation across diverse audiences.

SUGGESTED SCENARIOS

- Public museum events
- Thematic days on environment, community, imagination
- Short participatory sessions

Description

The activity invites visitors to engage in a shared reflection on the World.

Through different phases, it focuses on mutual listening, awareness, and active participation.

Although the initial intention was for participants from Casa della Carità to co-facilitate the session, the activity was ultimately led by the Casa della Carità educator, with the theatre group taking part alongside visitors. This created a cohesive mixed group in which everyone contributed on equal footing.

The session begins with a welcome and a brief introduction to the project, followed by an explanation of the two symbolic spaces - the Desired World and the Speaking World - and the threshold that separates them. The atmosphere is informal and supportive: visitors and participants gather around a large circle on the floor, preparing to explore the planet through imagination, listening, and shared reflection.

After a short warm-up and preparation, the first phase unfolds within the Desired World. The educator invites the group to walk inside the drawn circle and imagine the world they would like to live in. Words, associations, memories, and images emerge spontaneously and collectively. This space is intentionally utopian: a place where desires can be expressed freely, without restrictions.

The group then crosses the threshold for the first time. In the Speaking World, everyone gathers around an inflatable globe to listen to the first section of a poetic monologue voiced from the perspective of Earth. Here the focus shifts toward listening rather than action.

After this first moment of listening, the group returns to the Desired World. New desires surface - now in contrast with what has been heard. The threshold reinforces the distinction between imagining the world and listening to the world.

The monologue is divided into three parts, and the educator guides the group back into the Speaking World for the remaining sections. Crossing the threshold repeatedly makes the alternation between viewpoints clear and tangible.



After the final listening moment, participants write their expressed desires inside the circle. The educator reads them aloud, giving shape to a shared horizon.

The threshold is then removed, and the globe is placed in the centre of the circle. Attention shifts to the Lived World of Needs. A set of photographs is arranged on the floor outside the circle. Participants walk through them, choose one image representing a personal essential need, and place it inside the circle. The educator introduces each photo and invites those who selected it to comment if they wish. This is where imagination and lived experience begin to meet.



A third transition takes place when each participant is invited to briefly hold the globe and "speak as the World", expressing what they believe the planet might ask of humans based on the experience of the session. The globe is passed from hand to hand, creating a shared interpretative moment where imagination, listening, and experience intersect.



The session concludes with Collective Weaving. Using a piece of wool, participants and visitors create a visible network that symbolically connects people, desires, needs, and individual commitments. Each person adds one small concrete action they feel able to take to reduce their impact on the world. The resulting map becomes a tangible representation of the group's temporary community and shared reflection.



A brief closing moment brings everyone together. The group forms a wide circle, holding hands and stretching outward to maintain balance—a simple gesture that highlights interconnection and mutual support. Overall, the activity emphasises accessibility, reciprocity, and the creation of shared meaning. It enables all participants to explore sustainability, responsibility, and the relationship between people and the planet side by side.

TIMING

10 min	Welcome and introduction <ul style="list-style-type: none">• Welcoming participants and visitors• Brief background information on the project
10 min	Warm-up and preparation <ul style="list-style-type: none">• Light activation exercises• Listening and body
25 min	The desired world and the speaking world (alternate 3 times) <ul style="list-style-type: none">• Group walks within the circle with free expression of wishes, images, and imagined worlds• Across the threshold• Brief collective listening to the monologue of the speaking world (to get an idea of the monologue, see Annex 10 for the Italian text and an English translation).
10 min	Return to the desired world <ul style="list-style-type: none">• Writing wishes within the circle• Reading wishes
15 min	The lived world: needs <ul style="list-style-type: none">• Threshold removed• Photographs displayed in the space• Participants select an image that represents a personal need• Images placed within the circle• Brief comments from those who wish to speak
10 min	Speaking like the world <ul style="list-style-type: none">• Participants briefly hold The globe• They express what the Earth might ask of human beings• The globe is passed from one person to another
10 min	Collective weaving and closing <ul style="list-style-type: none">• Wool threads used to create connections between desires, needs, and commitments• Each person adds a small, concrete action they feel capable of undertaking• Final circle holding hands• Closing moment

Materials	Settings	Topics
Floor circle, inflatable globe, markers, threads/post-its, Coaching cards	Large open space	<ul style="list-style-type: none">• desires• needs• Earth's voice• community• possibilities

REFLECTION QUESTIONS

How do you value participants' experience?

- By creating a shared, non-hierarchical space where all participants contribute on equal footing, allowing different backgrounds, abilities and perspectives to shape the activity collectively.
- By treating participants' spontaneous words, choices and images as meaningful contributions that directly inform the flow of the session, rather than as additions to a predetermined plan.
- By adapting the rhythm and structure of the activity to the group's comfort level, prioritising clarity, accessibility and emotional safety over theatrical or performative expectations.
- By using simple, low-threshold actions (moving across a threshold, selecting images, placing objects, responding with short words) that enable everyone to participate regardless of confidence, literacy or expressive ease.
- By acknowledging the value of lived experience: the reflections that emerge from participants become shared material for collective meaning-making, ensuring the activity is shaped by the people present rather than by institutional assumptions.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

- By ensuring that any invited expert participates on equal footing with the group, contributing only as one voice among many and never as an authority delivering predefined answers or explanations.
- By allowing experts to intervene only in short, responsive moments, reflecting on what participants have already expressed rather than introducing external topics or framing the session from above.
- By making it clear that the format does not allow for lectures or top-down explanations: expert input is accepted only if it aligns with the horizontal, dialogic nature of the activity.
- By using shared actions and symbolic tools (circle, threshold, movement, images, the globe) so that the focus stays on collective meaning-making rather than on the expertise or status of any one individual.
- By encouraging experts to echo, deepen, or connect participants' insights - not to interpret them or redirect the process - thus maintaining a genuine two-way exchange.
- By structuring the session so that dialogue is generated by participants, with facilitators and experts responding to what emerges instead of shaping the flow through specialised knowledge.

Appendix

When this activity is suitable

- When the group is open to imaginative and reflective work, including symbolic actions, collective listening, and simple spatial transitions.
- When participants prefer low-threshold forms of expression, such as short verbal contributions, positioning in space, or choosing images rather than performing.
- When the facilitator can ensure a calm, supportive atmosphere, allowing participants to move between imagination, listening, and lived experience without pressure.
- When the aim is to explore sustainability, interdependence, and shared responsibility through experiential rather than didactic methods.
- When an invited expert (if present) is willing to participate on equal footing, offering short reflective inputs rather than lectures or authoritative explanations.

When this activity is less suitable

- When participants expect or require clear, directive instruction, as the activity relies on openness, ambiguity, and participant-driven meaning-making.

- When the group is uncomfortable with symbolic spaces or reflective practices, such as imagining worlds, listening to a poetic text, or engaging with images.
- When time is too limited to allow transitions between the Desired World, the Speaking World, and the Lived World, since the alternation is essential to the structure.
- When the setting does not allow for movement, spatial division, or a quiet atmosphere needed for collective listening.
- When an invited expert insists on a top-down or instructional role, which would disrupt the format and undermine the dialogic nature of the session.

7. From field to table: food, culture and community

Designed and tested by: Slovene Ethnographic Museum, Ljubljana, Slovenia

In brief

Duration	90 min
Number of participants	15-25
Number of facilitators	5 Two activities were led by representatives of the Roma community, two by museum experts, one by an expert from a company specializing in sustainable and nature-oriented gardening.
Special materials	<ul style="list-style-type: none">Vegetable seedlings, soil and mulchMunicipal waste separation manualTrash (for demonstration purposes)Printed list of tips for reducing food waste in the householdFood that represents Roma cuisine, plates and utensils
Objectives	<ul style="list-style-type: none">To engage the Roma community, which is rarely recognized as a relevant interlocutor, to the discussion about the challenges of food production and preparation.To enable the identification of the challenges faced by Roma in individual local communities with food production and preparation.To provide participants with the practical skills and confidence to engage in sustainable food production and preparation.Facilitating exchange between members of the Roma community and majority populations.
Tested with	Three different groups of members of the Roma community and one group of students from a Bilingual Secondary School operating in a multicultural environment, involving both the Roma community and the Hungarian minority.

OVERVIEW

The educational activity consists of five workshops, each focusing on a different topic: sustainable gardening, herbalism, waste separation, reducing food waste, and preparation of traditional Roma dishes.

Context

The activity was implemented in four different settings, each involving Roma communities in distinct ways. The first session was held at the Lendava People's University, located in an area with a large Roma population, and local Roma community was strongly involved in organizing and implementing the activities. Next, the activity was tested in a bilingual high school attended by Roma and Hungarian students, encouraging dialogue between youngsters from different cultural backgrounds and fostering mutual understanding through shared learning experiences. Additional session was organized at the premises of an NGO working closely with Roma families, creating a safe and familiar environment for participants to share their experiences. Final session took place at a Roma settlement hosted by the local Roma association.

where community members also actively participated in both the organization and facilitation of the activities.

SUGGESTED SCENARIOS

This activity is designed and implemented in close collaboration with representatives of the Roma community, who are also the primary target group. Through a series of hub and co-creation meetings, museum educators and community representative identified the community's needs, interests, and expectations, while also recognizing potential risks and dilemmas. Together, they compiled a list of facilitators – both from within the Roma community and from other backgrounds – who possess relevant knowledge and experience in food cultivation and preparation. A key aspect of the activity is that it takes place in Roma community spaces, where participants feel comfortable and at home. The tone of the activity is intentionally informal and dialogical, rather than lecture based. Social interaction and community bonding are essential components of the experience.

Description

The activity is organized as a dialogue event, divided into five parts. Each of these parts addresses a distinct theme using a unique approach.

The chosen topics were arranged in a meaningful sequence, starting with sustainable gardening, herbalism, sessions on waste management and using leftover food, and concluding with a presentation and tasting of traditional Roma cuisine. Educators and community representatives conducted the activities with each group on a flexible schedule, depending on the availability of facilitators and the specific dynamics of the participants.

TIMING

At each location, facilitators adapted to the given conditions and group dynamics.

The aim was to establish good contact at the beginning and, above all, to emphasize the participation of Roma in the design and implementation of activities. Co-organizers from the Roma community played an important role in organizing the activities, inviting participants, and supporting all facilitators during the whole process.

5 min	Introduction Begin with a warm welcome to all participants and introduce the facilitators. Briefly outline the purpose of the gathering and provide an overview of the activities planned for the session.
20 min	Sustainable gardening A permaculture expert introduces participants to the basics of gardening, offering practical advice on how to start and prepare soil for sustainable gardening. The participants plant lettuce seedlings as part of the hands-on activities.
 <p>Aljaž Plankl talks about preparing the soil for sustainable gardening in the garden of the founders of the Roma Association, June 6, 2025, Šentjernej. Image credit: Sandi Horvat.</p>	
20 min	Herbalism Facilitators from the Roma community present their association and various activities related to collecting herbs and making products from them. They present the devices they use to make herbal products, e.g. distiller for making hydrolates. Some of the products were available to smell (St. John's wort oil) and taste (tea).
10+10 min	Recycling / Food waste The group is divided into two smaller subgroups to create a more intimate atmosphere and encourage easier exchange of personal experiences and practices. One subgroup discusses recycling, while the other focuses on food waste. After 10 minutes, the groups switch topics.

20 min

Preparation of traditional dishes

A Roma woman who researches and promotes traditional Roma food prepares selected dishes that were available for participants to try.

She combines the presentation of the food with a presentation of the history of the Roma. She also presented the food that Roma people used to eat and still eat today on special occasions and invited participants to share their memories of the food of their grandmothers and grandfathers and their experiences in preparing food. It turned out that some traditional holiday dishes were not present in all communities, so the activity was also a good opportunity for the Roma people themselves to share their heritage.



Traditional Roma food to try. Prepared by Sonja Horvat, Nova pot - Nevo drom association. Lendava, May 24, 2025. Image credit: Sandi Horvat

5 min

Conclusion

The activity concludes with an evaluation of the satisfaction and usefulness of the activity for the participants.

Materials	Settings	Topics
<ul style="list-style-type: none"> · Pens and paper · Vegetable seedlings, soil and mulch · Municipal waste separation manual · Trash (for demonstration purposes) · Printed list of tips for reducing food waste in the household · Table and chairs · Food that represents Roma cuisine, plates and utensils 	<p>Most activities were conducted outdoors, in gardens or lawns that allowed hands-on interaction with soil, plants, and waste-sorting materials, creating a direct connection with the environment. The herbalists' presentation took place in a semi-open space within their community, next to the herb garden, offering room to demonstrate tools and products. Traditional Roma food sessions were usually held indoors, with tables and utensils prepared for tasting, except for one version organized outdoors by the Roma association.</p>	<ul style="list-style-type: none"> · Sustainable gardening · Herbalism · Waste separation · Food waste · Roma cuisine · Common heritage

REFLECTION QUESTIONS

How do you value participants' experience?

Valuing a participant's experience is about more than just listening; it's about creating an environment where their knowledge and insights are essential to the process.

Facilitators paid extra attention to this in each activity by focusing on the participants' memories and current experiences. Each facilitator encouraged participants to share and ask questions about things that interested them. It was important to respect and value each voice, and to connect their stories with the broader conversation.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Facilitators follow the principle of active listening and responding in a supportive and encouraging manner. They try to deepen the stories given by asking the speaker to add to it or get others' reactions to them. It was also important to use open-ended questions to avoid simple answers.

FACILITATOR'S NOTES

The activities were carried out in an environment that was familiar and close to the participants. When working with a marginalized social group, creating a safe and relaxed environment is extremely important. It not only helps more people respond to the invitation, but also helps to share ideas, experiences and skills within the group. In order to prepare an effective activity, participants must be well informed about what will happen, how long the activity will last, and the topic covered. It is important to start from their own experiences, interests and needs, so it is invaluable to first inform yourself about the specific situation in the area that interests us in the activity.

FACILITATOR'S INSIGHTS:

What made the activity work well in this context?

Participants felt at home in the locations where the activities took place.

The themes were closely connected to their everyday life – practical, relatable, and easy to translate into concrete actions. This made it easier for participants to implement what they learned in their own households. Group connection was strengthened through shared experiences during the activities. Sharing a table of food at the end contributed to a relaxed and friendly atmosphere.

What difficulties emerged (e.g., emotional, relational, logistical)?

For the successful implementation of the activity, it is important that participants are informed about the content, duration and planned activities upon invitation. In one case, communication between participants and the organizer was weaker, resulting in less interest from participants and them leaving the activity early before implementing artistic workshop.

This was also challenging for the facilitators, both in terms of communication with the group and emotionally, as the activity implementation was unpredictable. This experience once again confirmed our usual rule of connecting with community members and organizing and developing activities together.

Did any part of the format or facilitation style need to be adapted?

Facilitators adapted the implementation of these activities to each individual group, and depending on the dynamic that developed, they occasionally omitted certain activities in some groups. Adaptations were made based on time constraints, group dynamics, and attendance.

Appendix

When this activity is suitable

This activity is most effective when working with a specific group with a shared background that have already expressed their own interest in the chosen topic.

It is most appropriate when both the organization and design of the activity content are carried out with representatives of the target group, who express their needs, interests, desires, and also obstacles to implementing the activity. It is crucial that the activity takes place in a safe and pleasant environment, allowing participants - who often face discrimination and stereotypes - to relax and share openly.

When this activity is less suitable

An activity is less suitable if it is carried out in the local environment of the target group without prior engagement with its representatives. In these cases, activities are often less relevant, especially for marginalized groups, and less likely to be attended by an acceptable number of people.

Additional resources

Združimo se!: a video of educational and artistic activities:

<https://video.arnes.si/watch/fw5vnbscq4c0>

8. Cooking traditions: sharing the heritage of food preparation

Designed and tested by: Slovene Ethnographic Museum, Ljubljana, Slovenia

In brief

Duration	50 min
Number of participants	15-20
Number of facilitators	2
Special materials	No special materials are needed
Objectives	<ul style="list-style-type: none">• To sensitize participants to the topic by engaging both body and mind.• To value participants' personal experiences and memories.• To explore community heritage together with participants.• To affirm and celebrate the community's cultural heritage through the exploration and sharing of traditional food narratives and practices.• To preserve heritage narratives within the museum as a special archive, thus giving value to an often-overlooked legacy.
Tested with	39 members of the Roma community.

OVERVIEW

After creative activities that sensitized the participants to the topic, production and preparation of food in Roma communities, in the past and today, were explored. It allowed to recognize the experiences and knowledge of the participants which were recorded for the newly established archive of Roma heritage that will be kept by the Slovene Ethnographic Museum.

Context

The activity was tested in two distinct settings involving Roma communities.

At the premises of the Lendava People's University, a location with a large Roma population that is more integrated into the majority population; however, they still face greater economic and social inequalities. It was also implemented at the premises of a Roma association that focuses on collecting and using herbs. This community is located in an area where the Roma population faces harsh economic and social challenges.

SUGGESTED SCENARIOS

To make the activity informal and easy to implement, it should be conducted within the community's own environment. If possible, hold the activities outdoors or in a cozy room to create a relaxed atmosphere. You don't need any specialized tools or a particular setting for the artistic components. Afterward, you only need a bench and a table to sit around and talk. The recording of the selected heritage narratives should be done at a later time, based on an individual agreement between the cameraman and each person being interviewed.

Description

The activity is best carried out after educational activities, when participants already have some general knowledge about the chosen topic. It is best to start with artistic activities that activate their body and mind at the same time. These activities help to relax and connect the chosen topic with a personal perspective. This is followed by a conversation exploring the views, memories and experiences of the participants. The final step is to record their stories in order to preserve their memories and experiences.

TIMING

The group gathers around the facilitators and stands. This activity is ideally implemented after the educational ones, as it assumes the group members already know each other.

3 min	<p>Introduction</p> <p>The facilitator convenes the group, invites them to a new activity and explains its course and goals. She emphasizes that their experiences, memories and perspectives on food production and preparation are important and should be explored together, as they form an important community heritage. She tells the participants that first there will be creative activities that will lead to a conversation on the topic.</p>
12 min	<p>Social theatre techniques</p> <p>The activity starts with implementing social theatre techniques designed to sensitize participants to the topic, establish a relaxed, friendly atmosphere, and help to build trust among participants and between the group and the facilitator. Because the activity is carried out after the educational activity, the participants already know each other and there is no need to exchange names. Instead of that, each participant shares a favorite dish that their grandparents used to prepare. This opens up personal memories and creates a natural bridge to the topic of food heritage.</p> <p>The facilitator then asks the participants to arrange themselves along an imaginary line from yes to no, according to their opinion on the question asked. The questions chosen were as follows:</p> <ul style="list-style-type: none">• "Do you have a garden at home?"• "Did your parents or grandparents grow food?"• "Did your elders teach you how to collect herbs?"• "Do you know and collect herbs?"• "Do you like to cook?"• "Do you like to eat well?" <p>As the participants spread out on the imagined line, the facilitator asked them why they were there and also encouraged dialogue among themselves. The purpose of these techniques is to encourage participants to make a personal connection with the topic, in our case, food harvesting and preparation. The discussion in the Roma community showed that their ancestors had valuable knowledge about food, but much of it has been lost. The purpose of these exercises is to help rekindle this connection with the past.</p>

30 min

Moderated discussion

In a moderated discussion, questions were addressed about how food production and preparation have changed over time, what is the impact of climate change they have to deal with when growing vegetables, and what type of food is traditionally eaten for the holidays or at other occasions. It was also discussed how knowledge and skills related to food production and preparation have been passed down through generations, and what has been lost as the community has better integrated into the wider society. The discussion also drew attention to stereotypes related to food production and preparation, e.g. in relation to a certain type of food and method of preparation, and drew attention to the practices of begging, which were more common in rural areas in the past.

This conversation also serves as a basis for collecting and later recording some of the shared stories identified as relevant. It allowed us to identify good speakers who can narrate their memories and experiences and talk about Roma heritage in an interesting way.

The resulting archive will have the aim to contributes to the growing collection of personal and shared narratives related to food, heritage and the everyday life of Roma.



Discussion with Roma in Prekmurje on the topic of traditional food production and preparation.
May 24, 2025, Lendava. Image credit: Sandi Horvat

5 min

Conclusion

The activity ends with a short evaluation in order to share participants feedback, as well as suggest what topics could be further explored.

Materials	Settings	Topics
No tools are needed to implement this activity.	<ul style="list-style-type: none"> · Outdoor space · Table and chairs 	<ul style="list-style-type: none"> · Evolution of food practices and traditions · Climate change and community resilience · Food, identity, and social stereotypes · Personal and intergenerational food memories · Preserving traditional knowledge for the future

REFLECTION QUESTIONS

How do you value participants' experience?

The participants' experiences were at the heart of this activity. Using social theatre techniques opened up the topic and encouraged them to connect with their own experiences, memories, practices and reflections on the topic of food production and preparation. This led to a moderated discussion where they exchanged their stories and often built on the interventions of others.

By activating the body first, this contributed to greater relaxation, which is especially important for the Roma community, as they often feel excluded and less understood by the majority.

The entire moderated discussion placed them and their experiences at the center.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

A two-way dialogue was established and maintained by asking questions, encouraging participants to contribute, and above all, by creating a pleasant atmosphere. The facilitators showed genuine interest in the topic and wanted to learn more, which made the participants feel accepted and their stories valued. In both Roma settlements, time has run out, as the participants still had many stories to tell. The facilitators were from the museum, but it was very important that a representative of the Roma community was also part of these discussions, as his presence made the participants feel better and more secure. He also helped us identify good speakers and good stories that are interesting for the Roma archive in the museum.

FACILITATOR'S NOTES:

The activity was tested in an environment both close to and in the Roma community itself. The first activity was held on the premises of the Lendava People's University, where Roma are also employed as organizers and implementers of activities, which makes the institution more successful in attracting participants to their activities.

The second was carried out at the location of the Roma association in another part of Slovenia where it is extremely hard to guarantee participation. With hope that the activity, co-organized and partly carried out by the Roma themselves, would attract as many participants as possible. Both activities were carried out outdoors, with the good weather contributing to a good atmosphere.

The activity could be adapted to another setting, such as museums, as shown in "**Exploring heritage of food production and preparation for future action**", where educational activities were replaced with the exhibition tour that served a similar purpose.

What made the activity work well in this context?

The activity was successful because it was carried out in an environment that was geographically close to the target group, familiar to them and made them feel safer. It was also important that the activities were co-organized by representatives of the Roma community.

The fact that representatives of the Roma community proposed a topic that was current and that most people could identify with also contributed to its success.

It was created a relaxed and pleasant atmosphere in which participants felt that their experiences, memories, and reflections had value and were important. The group sizes were also appropriate, especially the second one (12 participants), which contributed to the ease of implementation.

What difficulties emerged (e.g., emotional, relational, logistical)?

Since the activities were co-organized by Roma representatives, and the organizers from the Museum had not visited the locations before, it was necessary to adapt the activities to the possibilities (space, time, availability of participants).

This required a bit more improvisation and flexibility.

Did any part of the format or facilitation style need to be adapted?

It is important to ensure that the groups are not too large. It would be wise to visit the locations where the activities are being carried out in advance and work out the details.

Appendix

When this activity is suitable

This activity is most suitable when the goal is to invite a selected group of people with a shared background to explore their memories, experiences, and perspectives together. In the case of Roma participants, a shared cultural heritage provided a strong foundation for connection and engagement. This activity is most appropriate when it is possible to provide a safe and pleasant environment that allows participants, who otherwise face discrimination and stereotypes, to relax and share with each other.

When this activity is less suitable

An activity is less suitable when it is carried out in an environment that the target group does not perceive as their own. It is also less suitable when they participate in the activity for various benefits, rather than for their own interest.

The activity is intended to encourage people who are otherwise less accustomed to open dialogue and exchange to approach a certain topic openly and with a desire for exchange.

Additional resources

TIM Toolkit. A practical guide output of the Theatre in Mathematics project produced by SCT Centre, describing in detail many theatre exercise, part of the TIM methodology.

<https://old.theatreinmath.eu/outputs/tim-methodology/>

9. Tastes of memory: exploring the heritage of food and community

Designed and tested by: Slovene Ethnographic Museum, Ljubljana, Slovenia

In brief

Duration	90 min
Number of participants	15-20
Number of facilitators	2
Special materials	No special materials are needed
Objectives	<ul style="list-style-type: none">• Encourage reflection on participants' personal relationship to the topic, valuing their individual experiences.• Inspire participants to consider possible future actions based on the practices of their ancestors – heritage as a source of inspiration for the future.• Foster a sense of connection within the group.• Collect personal, family, and community stories and memories shared by the participants.
Tested with	25 members of the Roma community and 29 long-term unemployed individuals in a social activation program

OVERVIEW

Through social theatre techniques, participants are sensitized to the topic of food production and preparation. A guided tour deepens their understanding and provides cues for further discussion.

Context

The activity was tested at the Slovene Ethnographic Museum in Ljubljana.

SUGGESTED SCENARIOS

The activity is designed to take place in a museum setting, intended for a group of visitors from similar social backgrounds. Participants' personal experiences are connected with the heritage preserved and exhibited in the museum, encouraging deeper reflection on the present and inspiring possible future actions.

Description

This activity was not carried out after educational activities, but was organised as an independent activity. The activity started with simple social theatre techniques, followed by interactive guided tour and moderated discussion.

TIMING

The group gathers around the facilitators and stands. This activity is ideally implemented after the educational ones, as it assumes the group members already know each other.

5 min	<p>Introduction Briefly present the project and provide an overview of the activities that will follow.</p>
15 min	<p>Social theatre techniques</p> <p>The session begins with creative activities designed to sensitize participants to the topic and establish a relaxed, friendly atmosphere. These exercises aim to build trust among participants and between the group and the facilitator.</p> <p>The start is a simple warm-up activity: participants form a circle and take turns using their hands to "send" their names like an arrow to someone else in the circle. This name exchange not only helps participants get to know one another but also fosters a sense of connection within the group.</p> <p>The facilitator participates as an equal member, ensuring that everyone is included and engaged. Next, each participant shares a favorite dish that their grandparents used to prepare. This opens up personal memories and creates a natural bridge to the topic of food heritage.</p> <p>This is followed by a movement-based activity using an imaginary line. Participants position themselves along the line according to how they relate to a series of statements, such as:</p> <ul style="list-style-type: none">• "Do you have a garden at home?"• "Did your parents or grandparents grow food?"• "Did your elders teach you how to collect herbs?"• "Do you know and collect herbs?"• "Do you like to cook?"• "Do you like to eat well?" <p>To find their place on the line, participants must speak with each other, which encourages interaction and strengthens group bonds.</p> <p>The purpose of these theatre techniques is to invite the participants to form a personal connection to the topic – one that was selected by Roma representatives through hub and co-creation meetings. Many feel that while their ancestors had valuable knowledge about food, much of it has been lost.</p> <p>These exercises aim to help rekindle that bond with the past.</p> <p>The final shared reflection – that everyone enjoys good food – serves as a unifying point, making it easier to open up a discussion about food production and preparation, both past and present, with a specific focus on participants' cultural heritage.</p> <p>Through these activities, the experiences and knowledge of the participants are recognized and valued.</p>

45 min

Guided tour

Participants take part in a guided tour of the permanent exhibition Between Nature and Culture, with a focus on topics such as food production, processing, nutrition, and customs related to food. The tour is conducted in a conversational and interactive atmosphere, encouraging participants to share personal memories and reflections as they engage with the exhibits.

The content of the exhibition serves as a starting point for deeper reflection and discussion in the following part of the activity.



Participants take part in a guided tour of the permanent exhibition Between Nature and Culture.
Image credit: Tina Palaic

20 min

Moderated discussion

The discussion builds on the memories and thoughts that emerged during the exhibition tour. The goal is to create a space where participants feel encouraged to share their personal stories, connect with one another, and reflect more deeply on the themes of the activity.

This conversation also serves as a basis for collecting and later recording some of the shared stories, contributing to a growing database of personal and communal narratives related to food, heritage, and everyday life of Roma.

5 min

Conclusion

The activity concludes with an invitation for participants to share their feedback and reflections of the experience.

Materials	Settings	Topics
Table and chairs for moderated discussion; pens and Post-it notes for collecting participant feedback and evaluating the activity.	An open space large enough to allow participants to move around comfortably. Exhibition. A designated area with a table and chairs for moderated group discussion.	Food production and consumption, heritage, environmental adaptation, societal adaptation, intergenerational transmission of knowledge.

REFLECTION QUESTIONS

How do you value participants' experience?

Participants' personal experiences are placed at the core of the activity.

Establishing a personal connection to the topic is essential, as is fostering a sense of community.

The use of the body and physical presence in space at the very beginning emphasizes embodied experience, going beyond just verbal narratives. This holistic approach values both lived experience and storytelling.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Two-way dialogue is encouraged from the very beginning of the activity. The facilitator plays a key role by intentionally creating a safe, inclusive, and respectful environment where everyone feels heard and valued.

Rather than positioning themselves as the authority, the facilitator participates as an equal member of the group, guiding the process while remaining open to input, questions, and shared experiences. This approach fosters trust and openness, enabling participants to actively engage with one another and the facilitator in meaningful conversation.

FACILITATOR'S NOTES

The activity was originally designed to take place in a museum setting, but it can be adapted for use in community spaces. For example, in "Exploring heritage of food production and preparation", the exhibition tour was replaced with educational activities that served a similar purpose.

The activity was implemented twice. During the first session, the museum was closed to the general public; during the second, it remained open. The closed setting proved more effective, particularly at the beginning and the end of the session. Without outside visitors, participants felt more relaxed and comfortable, which encouraged openness and engagement in the group activities.

It is also important to consider group size. Smaller groups allow for more effective discussion. In our experience, facilitators occasionally worked with subgroups to ensure that everyone had the opportunity to share personal stories and reflections, as the conversation often sparked many associations and memories.

What made the activity work well in this context?

The relaxed and welcoming atmosphere played a key role in the success of the activity. Additionally, the topic – food and related traditions – was familiar and easy for participants to relate to on a personal level. This accessibility encouraged active engagement, sharing of stories, and meaningful connections within the group.

What difficulties emerged (e.g., emotional, relational, logistical)?

Both test groups were relatively large due to high interest in the activity.

As a result, facilitators had to invest significant energy into ensuring that everyone felt heard and included. Maintaining active listening and group cohesion became more challenging in a larger setting. Smaller groups are therefore preferred, as they allow for deeper dialogue, more personal sharing, and easier facilitation.

Did any part of the format or facilitation style need to be adapted?

Yes, facilitators adapted the format by dividing participants into subgroups when needed, particularly during the moderated discussion.

Appendix

When this activity is suitable

This activity is most effective when participants already know each other and share a similar social environment, as it helps to deepen existing ties and build trust.

In the case of Roma participants, a shared cultural heritage provided a strong foundation for connection and engagement. For unemployed participants, the topic itself served as a unifying element, temporarily bringing them together as a group through shared experiences and reflections.

When this activity is less suitable

This activity may be less suitable when participants are unwilling to share personal insights or engage in open discussion. However, it is intentionally designed in a way to gently encourage participation, even from individuals who may be less accustomed to dialogical formats.

Additionally, if the participants come from very diverse heritage backgrounds without a shared point of connection, it may be harder to create a cohesive group dynamic and common ground for discussion.

Additional resources

TIM Toolkit. A practical guide output of the Theatre in Mathematics project produced by SCT Centre, describing in detail many theatre exercise, part of the TIM methodology.

<https://old.theatreinmath.eu/outputs/tim-methodology/>

10. Climate collages

Designed and tested by: ScienceCenter-Network, Vienna, Austria

In brief

Duration	75 min
Number of participants	15-20
Number of facilitators	2
Special materials	<ul style="list-style-type: none">Printed pictures of great variety around the topic of climate change for collage cuttingOptional: Magazines or newspapers for collage cutting
Objectives	<ul style="list-style-type: none">Valuing participants personal experiences and emotions connected to climate changeEnabling participants to express climate change through personal images and creative expressionBuilding dialogue between different perceptions and feelings, encouraging connection and actionDiscover personal relevance and connections to the topic, learn from each other's expressions of opinions and feelings
Tested with	Unemployed or job-seeking women between the ages of 20 and 25 in a program for career guidance, knowledge expansion, and support in finding vocational training or employment.

OVERVIEW

Through a guided imagination exercise, participants reflect on their personal perceptions of and feelings about climate change. They then sketch and share their mental images working in pairs to create collages that represent these visions. The activity combines reflection, dialogue, and creativity.



4 Climate Collages made by Future Factory participants.
Image credit: Nina Kramer, Copyright SCN

Context

The activity is conducted with a local association supporting young women in finding vocational training or employment. The activity is part of a workshop about climate change that the women can voluntarily sign up for beforehand.

SUGGESTED SCENARIOS

The scenario is a workshop in a room with at least two tables (preferably more) and chairs for drawing and collage-making. In the beginning of the workshop the participants and facilitators are sitting around one table to welcome the group and explain the activity, but can further split in smaller teams, during the progression of the workshop, to create a more intimate and time saving environment for sharing thoughts and emotions.

The assigned room was capable of 14 participants for which the group usually is divided in 2 of 7 participants each. The activity is designed for informal group settings (community centers, schools, cultural associations, youth groups, etc.). A quiet and safe space is needed where participants can close their eyes and engage in an imagination exercise without interruption.

Description

The format combines a guided imagination exercise, individual sketching or writing, small group sharing, and collaborative collage-making. Participants are first invited to visualize personal images of climate change, then capture them on paper, share within a group, and finally work in pairs to create an artwork together.

TIMING

The group is seated around the table on chairs together with the facilitators.

After a calm imagination exercise, participants sketch or draw individually what they imagined during the exercise, then share their pictures in the large group, and finally work in pairs for the collage making. For the collage making it is optional to work in pairs and participants can also work alone.

10 min	<p>Introduction</p> <ul style="list-style-type: none">• Welcome of the participants and brief round of introductions (for example participants could be asked to tell the name and a funny fact happened recently)• Explanation of the activity. Emphasize the personal and creative aspect of the activity, it is not about sharing factual knowledge. The activity aim at exploring what climate change means to personally and to use imagination, emotions, pictures, and creativity, to express this.• Presentation the introduction and guideline script to the participants (see in Annex 1: Facilitator scripts for imagination exercise)
5 min	<p>Imagination exercise</p> <ul style="list-style-type: none">• Invite the participants to stand up, spread out in the room and shake their bodies briefly to relax.• The exercise can be conducted while standing or being seated depending on the participants preference.• Facilitator reads the imagination script (Annex 1: Facilitator scripts for imagination exercise) very slowly, guiding participants to close their eyes and visualize personal images of climate change. It is important to emphasize the validity of all images and feelings. The pictures can be abstract or realistic. Importantly, they cannot be wrong! Whatever picture comes up in association to climate change is the right picture for the person.

10 min	<p>Sketching and individual reflection</p> <ul style="list-style-type: none"> Participants sketch their images very roughly on paper. They may also add short notes, words, or colors connected to their vision. They can also write down what they saw if preferred. Make clear that aesthetic qualities are not important here. The sketch serves as a tool to quickly capture one's own image and help sharing it with other people.
5 min	<p>Sharing in groups</p> <ul style="list-style-type: none"> Participants split into two smaller groups with 5-10 people each. Each person briefly shares their image/sketch with the group. <p>Facilitator encourages active listening and identifies common themes.</p>
	 <p>Participants looking for suitable pictures for their personal climate collages.</p> <p>Image credit: Nina Kramer, Copyright SCN</p>
20-35 min	<p>Collaborative collage making</p> <ul style="list-style-type: none"> Participants pair up with someone else whose image or theme feels connected to theirs. After each pair creates a collage on A3 paper, combining elements from their sketches and using additional materials (cut-outs, colors, words, drawings). Facilitator ensures that pairs have enough time but also keeps momentum.

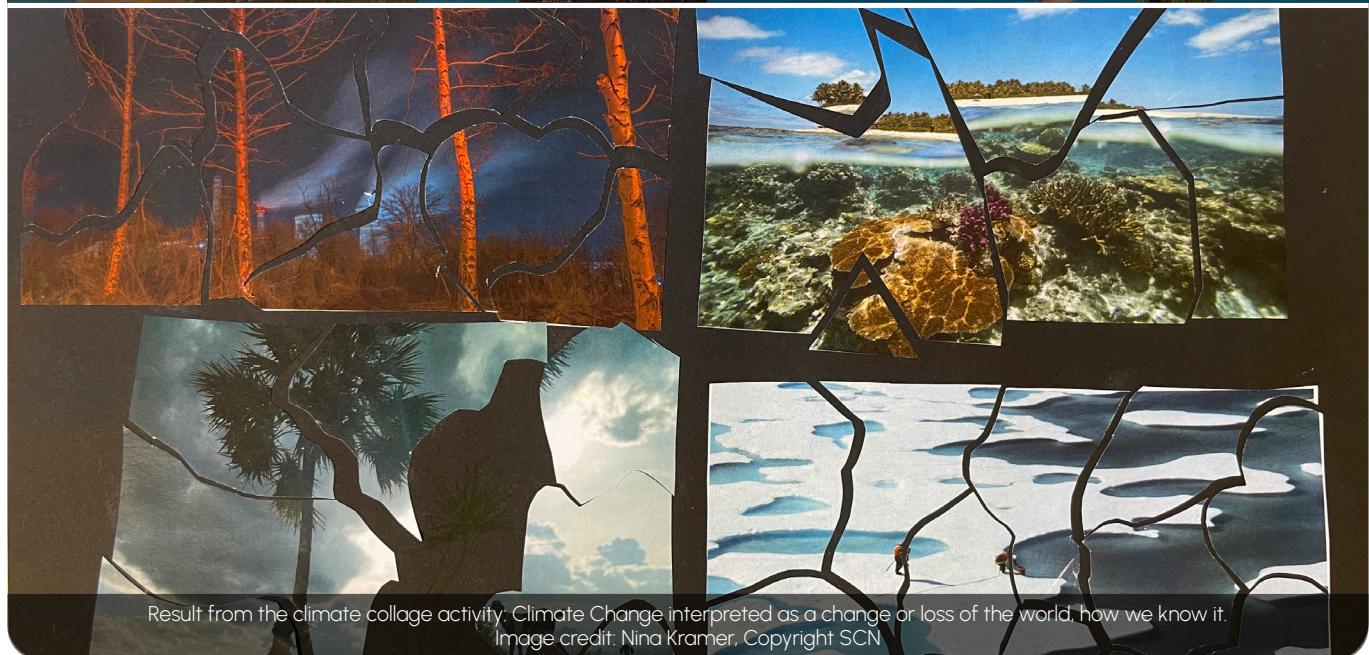
10 min

Conclusion: presenting collages

- All collages are displayed for the group.
- Each pair briefly presents their artwork (feelings represented, key images, favorite part of the collage, whether anything feels missing).
- Facilitators and other participants can ask questions or comment on what they like about the image.
- The group applauds each presentation.
- The activity ends with a collective reflection on the artworks and the diversity of images connected to climate change. Facilitators may invite participants to notice commonalities, differences, and surprises across the collages.

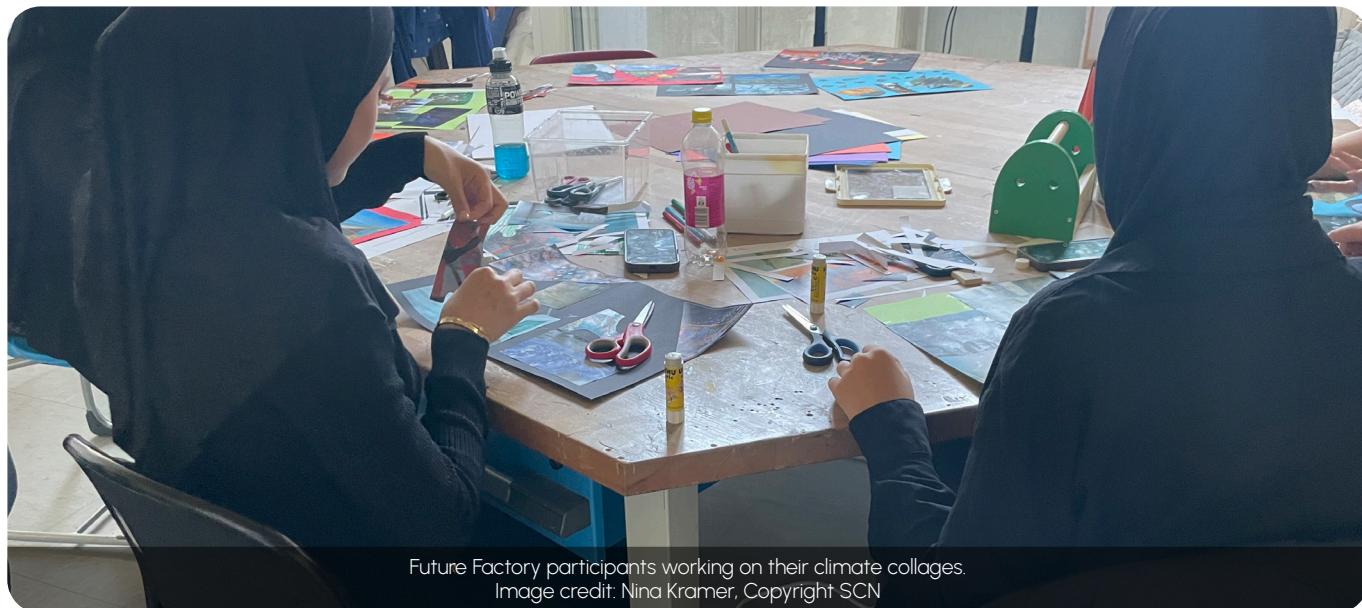


Result from the climate collage activity, displaying threats and hopes associated with climate change.
Image credit: Nina Kramer, Copyright SCN



Result from the climate collage activity: Climate Change interpreted as a change or loss of the world, how we know it.
Image credit: Nina Kramer, Copyright SCN

Materials	Settings	Topics
<ul style="list-style-type: none"> Printed pictures of great variety around the topic of climate change for collage cutting (e.g. Protests, fires, landscapes, diverse people, drought, flooding, forests, ice, factories, renewable energy, globes, vehicles, cities, satellite images, etc.) Optional: Magazines or newspapers for collage cutting Script for imagination exercise (see Annex 1: Facilitator scripts for imagination exercise) A4 sheets of white paper for sketches A3 sheets of colored and white paper for collages Optional: Decorative paper with patterns, colors, Scissors, glue sticks Pens, colored pencils 	<ul style="list-style-type: none"> Indoor space with calm atmosphere Tables and chairs for working 	<ul style="list-style-type: none"> Climate change and environment, threats and solutions, migration, nature... depending on the chosen pictures and the participants associations with the topic. Personal emotions, perceptions and relations to climate change Creativity and imagination as a tool for dialogue Collaboration and group work



REFLECTION QUESTIONS

How do you value participants' experience?

Participants' personal experiences are placed at the center of the activity. The imagination exercise explicitly validates all kinds of images and feelings as equally meaningful. Sketching, sharing, and collage-making are less about artistic skills but about expressing inner visions.

This approach ensures that each participant's unique perspective is seen and valued by the group.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Dialogue is fostered at multiple stages: first when participants share their sketches in small groups, then when pairs negotiate and merge their visions into a collage, and finally during the collective presentations. The facilitator creates a safer space and ensures equal speaking time and positive feedback culture.

FACILITATOR'S NOTES

What made the activity work well in this context?

- The target audience chose for this creative exercise in a co-creation meeting due to the liking of creative working with pictures and the collage making in particular
- Safe space, participants already knew each other
- The imagination script helps participants to connect with the topic in a very personal and emotional way.
- Working in pairs lower the pressure to perform and encouraged collaboration.
- The collage-making process create a playful atmosphere that balanced the seriousness of the topic.

What difficulties emerged (e.g., emotional, relational, logistical)?

- Logistical: calm environment needed, no disturbance/noise
- Some participants could thinking that the activity aims at testing their knowledge
- Some participants can feel insecure about drawing, so facilitators had to emphasize that sketches could be very rough, or even described with words
- Participants need to have at least some perceptions or ideas about climate change. Exercise does not work if they have never heard about it.

Did any part of the format or facilitation style need to be adapted?

The activity is the starting creative part of a two-part workshop. The workshop starts with the collage activity and proceed with the second part: educational activity about CO2 physics and emission mitigation measures (CO2 experiments and discussion on climate change).

The Creative collage is a valid way to open discussions about personal relations to the topic and emotions, the following activity is more fact-based activities. Unfortunately, participants ended up making collages that were only representing their factual knowledge about climate change and maybe found themselves in an exam like setting.

Changing the order of sequences and moving the collage making activity after other educational activities made it easier to communicate to the participants that this activity is about their personal feelings and perspectives not about their knowledge. There has not been a need to discuss basic knowledge or conceptions because the basic concepts were covered earlier with the educational activity (CO2 experiments..) and people could concentrate on the personal meaning of it. Further, some kind of trust relationship was built already with the group.

If the group is more insecure about sharing personal thoughts and has little or no opinion on the topic, additional topic related activities beforehand are beneficial. The exercise still works well on its own, with people who are used to sharing their opinions and have already strong conceptions about climate change, as figured this during the design process.

Appendix

When this activity is suitable

- When groups already have a minimum level of trust and are open to reflective/creative approaches.
- When the setting allows for quiet concentration and safe sharing.
- With groups who have at least some ideas about climate change. It can also be conducted with people who are very informed

When this activity is less suitable

- In contexts where participants are under extreme stress or trauma, as imagination exercises may trigger overwhelming emotions.
- In highly formal or time-limited events where creativity and open sharing cannot unfold.

- In noisy or open public spaces without privacy.
- With participants who have never ever heard anything about climate change

Additional resources

- <https://www.climatevisuals.org/>

online image library related to climate change. Many are public domain for reuse.

- Annex 1: Facilitator scripts for imagination exercise

11. CO2 experiments and discussion on climate change

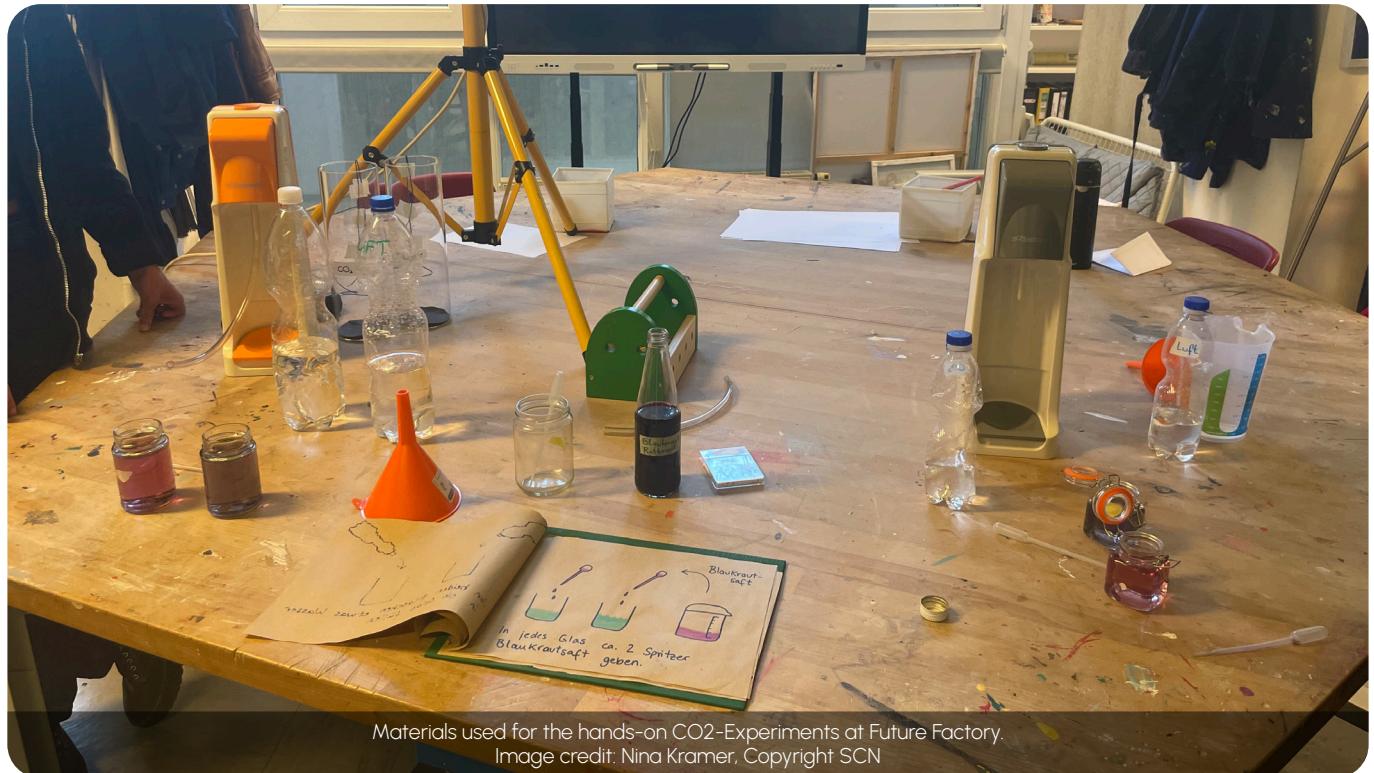
Designed and tested by: ScienceCenter-Network, Vienna, Austria

In brief

Duration	120 min
Number of participants	10-20
Number of facilitators	2
Special materials	Basic laboratory and household materials for science experiments: CO ₂ source (e.g., SodaStream, effervescent tablets, or baking powder + vinegar); transparent plastic bottles with lids; halogen or infrared lamp; thermometer or digital temperature sensor. A natural pH indicator can be prepared by boiling red cabbage in water for 15 min and using the colored juice as a test solution.
Objectives	<ul style="list-style-type: none">• Demonstrate the scientific principles of CO₂'s role in climate change and ocean chemistry• Engage participants with tangible experiments to enhance understanding of complex climate processes• Increasing self-awareness as a learner by conducting experiments and discussion of personal observations• Facilitate discussion and reflection on societal measures for climate mitigation and adaptation• Encourage dialogue between participants and facilitators on climate perspectives• Connecting scientific and societal perspectives on climate change
Tested with	Unemployed or job-seeking women between the ages of 20 and 25 in a program for career guidance, knowledge expansion, and support in finding vocational training or employment.

OVERVIEW

Participants explore consequences of increased CO₂ emissions through two hands-on experiments demonstrating greenhouse effect and ocean acidification. This is followed by a discussion game that encourages reflection on potential societal responses to climate change in Austria 2040.



Context

The activity is conducted with a local association to support young women in finding vocational training or employment. The activity is part of a workshop about climate change that the women can voluntarily sign up for beforehand.

SUGGESTED SCENARIOS

The activity is designed for classrooms, community centers, or youth workshops with at least two tables for experiments and for the discussion game. Participants can be seated or stand around tables for the experiments. The facilitator guides both scientific demonstrations and the group discussion, providing support and encouragement for participants.

Description

Moderated workshop with two main parts:

1. Hands-on scientific experiments illustrating CO2's impact on global temperature and ocean acidity.
2. A collaborative discussion game "Climate-Perspectives" to explore societal responses, political measures and future scenarios, to mitigate CO2-emissions

TIMING

Participants are seated around tables for experiments and the discussion game. To increase the level of participation, participants stand up to conduct the experiments themselves. The facilitators should conduct as little as necessary during the experiments but provide step-by-step guidance and moderate discussions about the observations within the group. Facilitators also give necessary explanations of certain processes and theoretical knowledge for interpretation of the experiments.

For the discussion game, the facilitator again acts mainly as moderator for discussion about the provided future scenarios on cards and should not introduce its personal opinions, but can provide background knowledge if necessary. The outcome of discussions should reflect the opinions and preferences of the participants and not a certain reality, truth or ideal outcome.

15-20 min	<p>Introduction</p> <ul style="list-style-type: none"> • Welcome and brief round of introductions (name + optional fun fact) • Explain schedule using a flipchart or whiteboard • Short discussion about climate change (questions about CO₂, greenhouse effect) to assess participants prior knowledge
20 min	<p>Greenhouse effect experiment</p> <p>Prepare beforehand:</p> <ul style="list-style-type: none"> • two identical tall bakers/jars with black paper on the bottom • Insert temperature sensors, fix these in the lower third of the jars at equal distances from the walls in the center, (sketch in the Annex 3: Greenhouseeffekt experiment) • Ensure initial temperature is equal in both jars (it can help to blow into both jars, or warm one jar carefully from outside with your hands) <p>Explain the experiment to the participants and encourage them to conduct the experiments themselves. It is ideal to have enough material to be able to perform the experiment twice simultaneously. That way, more participants can actively take part in the experiments.</p> <p>Greenhouse effect experiment:</p> <ul style="list-style-type: none"> • Introduce CO₂ into one vessel (via Sodastream or chemical reaction). As CO₂ is heavier than air, it should stay in the vessel. • This creates two models of the atmosphere, one with normal air, and the other strongly enriched in its CO₂-level. • The black paper on the bottom serves as model for the earth surface which absorbs light and emits infrared radiation. • Illuminate the lamp, our model of the sun and observe temperature changes. • The temperature measurement in both Jars will rise. The beaker filled with CO₂ should be warming much quicker than the one filled with air. If conducted correctly, the temperature will reach a stable difference of 1-3°C. • Discussion with the group: what did we observe? Discuss take-home message: CO₂ traps heat in the atmosphere, because CO₂ molecules absorb infrared radiation, discuss importance of control the experimental settings, discuss scientific process and methods.

Setup of the greenhouse effect experiment.
Image credit: Nina Kramer, Copyright SCN

20 min

Ocean acidification experiment

- Explain experiment and let participants conduct it themselves guiding sketches for conduction of the experiment are in the Annex 4: Ocean acidification experiment
- Fill bottles with water to approximately 1/3, ensure same volume of water in both bottles and introduce CO₂ gradually in one bottle, mark the bottles
 - note: both bottles are completely full! 1/3 is filled with Water and the rest is CO₂ or air respectively.
- Shake bottles to demonstrate gas dissolution, discuss what we observe: The bottle filled with CO₂ is shrunk together due to the dissolution of the gas in the water, reducing its volume.
- Pour the water from both bottles in separate beakers and mark them accordingly.
- Use pipettes to add red cabbage indicator solution and observe the change of color.
- The acidified water (where CO₂ has dissolved) has a magenta color while the color of the normal (neutral) water should be darker and more purple/bluish.
- The difference in color should indicate in an aesthetic way that something in the water chemistry has changed due to the dissolution of CO₂
- Optional: Take pH test strips and use them according to the description, to measure pH of the water. (this is usually conducted, by putting a strip in the water solution and match its color indicators with the template of the respective pH)
 - The purple blue (neutral) water should have a pH close to 7.
 - The magenta-colored water with added CO₂ will likely have a pH between 5 and 6, what is considerably sourer (acidification)
- Discuss: CO₂ can dissolve in water and makes it sourer due to the formation of carbonic acid, this happens in soda drinks as well as in oceans, relate to the ocean as an important carbon sink, relate to household knowledge such as acidity dissolves lime, discuss negative effects on ocean organisms with limestone skeleton (Corals, Shells, crabs or certain algae).



Participants using red cabbage juice as acidity indicator.
Image credit: Nina Kramer, Copyright SCN



Participants measuring pH of the two different water solutions.
Image credit: Nina Kramer, Copyright SCN

Climate perspectives discussion game

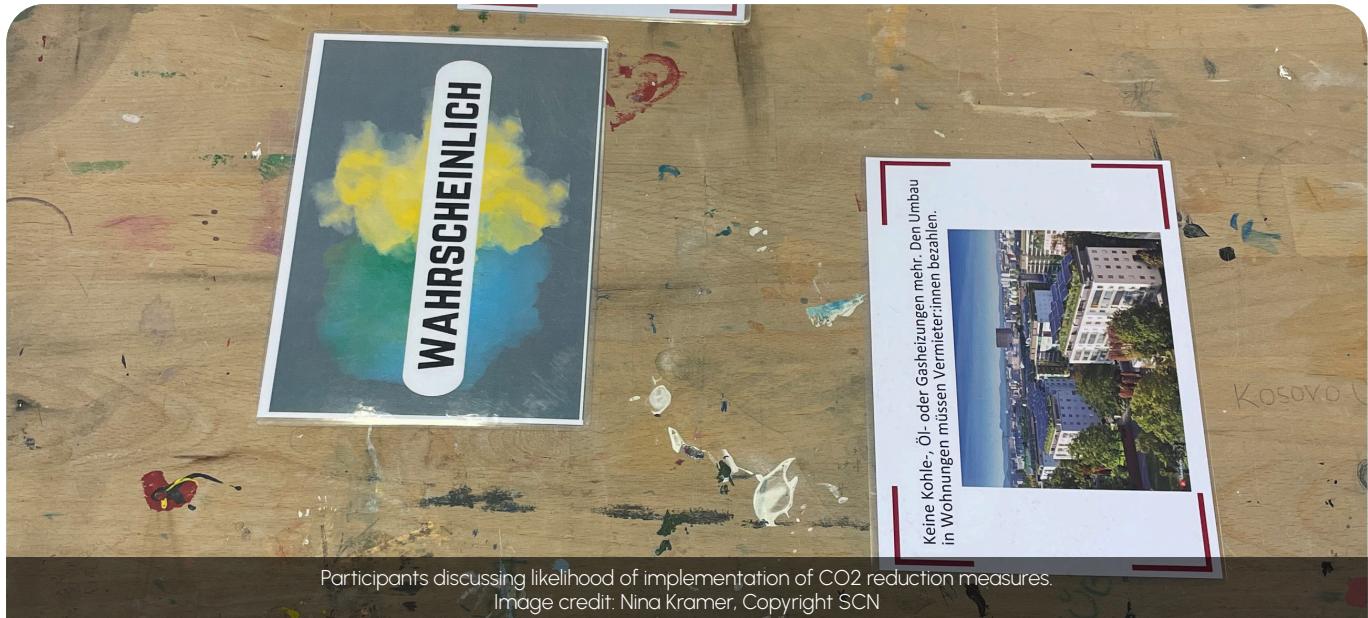
The game contains several game cards with future scenarios of Austria 2040, where certain measures are in place to mitigate CO2 emissions (like speed limits for cars, reduced meat consumption, Restoration of bogs and forests, etc.)

- 2 additional cards should mark the endpoints of 2 continuum scales (likely/unlikely; desirable/undesirable). Set up the first continuum "unlikely – likely"
- Participants read a card describing a future scenario/measures for climate protection.
- Discuss whether scenario is likely/unlikely, place card on the continuum
- Pick more cards and place each scenario before, after or between the others after a small discussion. The measures should be ranked in order and not be put next to each other.
- After all cards are placed, flip the continuum cards to "desirable – undesirable"
- Restart the discussion and if necessary, change the order of the cards according to the desirability ranking of the participants.
- Discuss differences and personal opinions, encourage dialogue on climate justice and societal responsibility
- Optional: participants can read background information on the backside side of the cards during discussions or afterwards

35-45 min



Participants ranking CO2 reduction measures by desirability.
Image credit: Nina Kramer, Copyright SCN



Participants discussing likelihood of implementation of CO2 reduction measures.
Image credit: Nina Kramer, Copyright SCN

15 min

Conclusion

The activity ends with:

- Summarize learnings from the experiments and possible social measures to mitigate the problems discussed in the card game.
- Reinforce understanding of environmental effects of CO2 and the role of collective climate action
- Encourage reflection: What individual or societal actions are feasible? Do we want to live in a CO2 neutral society? Do we want to continue the lifestyle as we have it now, with heavy emissions and warming?

Settings	Topics
Tables, chairs, power outlet	Climate change, greenhouse effect, CO2 cycle, ocean acidification, climate protection, societal adaptation, political measures, climate justice
Materials	
<p>Experiments:</p> <p>Ocean Acidification Experiment</p> <ul style="list-style-type: none"> · CO2-source (one of the following or other): <ul style="list-style-type: none"> · Sodastream, or similar household device for generating fizzy drinks with CO2 · baking powder + vinegar and laboratory bottle with tube dispenser · 4 identical transparent plastic bottles (0,5 or 1,5 L) with thin walls and lids · Water, funnel, 4 small beakers, pipettes · Indicator solution and pH test strips: indicator solution can be easily home made with red cabbage: Cut red cabbage into small pieces and cook for 15 minutes in water. Pour red cabbage juice in a bottle or jar and use as indicator. Add preservatives and keep in fridge, if you want to prepare it for later use. · Tape + marker, optional buckets for waste <p>Greenhouse Effect Experiment</p> <ul style="list-style-type: none"> · CO2-source (options as above): · Halogen lamp (200-500 W) alternatively you can also use an infrared lamp at much lower power · Precise and sensitive temperature sensor with thermoelement/thermocouple · 2 identical high jars or beakers for 2 atmosphere models, black paper for the bottom of jars (we used jars with 10cm Diameter and 30cm height. Other dimensions are possible but should be tested before) · Tape, marker, optional buckets for waste <p>Discussion Game:</p> <ul style="list-style-type: none"> · climate-perspectives game cards (2 sets: text & images) images of original cards (in German) and translated English content of cards in Annex 2: Climate Perspectives 	

REFLECTION QUESTIONS

How do you value participants' experience?

Hands-on experiments allow participants to witness CO2 effects directly, making abstract concepts tangible. The discussion game provides a structured opportunity to voice opinions and see diverse perspectives, valuing each participant's contribution.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Dialogue is facilitated during experiments through guided observations and questioning, and during the discussion game through negotiation and placement of scenarios on the continuum. Facilitators moderate discussions, so all opinions of participants can be heard and affect the group decisions, and add additional information on the scenarios if requested by the group. Facilitators do not direct the outcome of the game towards a certain direction, but help to create a space for peer-to-peer exchange and learning.

FACILITATOR'S NOTES

What made the activity work well in this context?

The participant's background is very diverse, and they participate in the career guidance program for various reasons (problems with or lack of formal education, migration history, language barriers, various disabilities, etc.).

The hands-on experiments engage participants in an easy way and are less susceptible to different knowledge levels and knowledge gaps. They produce visible and tangible results of abstract and complicated concepts (greenhouse-effect, acidification) and learnings

are strengthened as they can be concluded from observations the participants made themselves. The discussion game initially introduces possible solutions to the problems. This adds maybe positive aspects to the whole topic, although not all the measures are likely to be implemented and/or are very desirable.

The discussion game sparks debate and reflection. The opportunity to express their own opinion – what usually has a visible effect on group choices – was valued by participants, who otherwise probably feel powerless in climate discussions. The combination of new factual inputs through the cards and opinions about those from other participants has the possibility to enable new perspectives for everybody.

What difficulties emerged (e.g., emotional, relational, logistical)?

Good preparation and testing of materials and experiments in advance are necessary.

Sensitive experiments require careful supervision (e.g., thermometers, lamps, CO₂ sources, pH indicators), and a wind free environment, i.e. no fans etc.

Reliable, functioning setups help to maintain group attention and trust.

The physical results of the experiments are visible and engaging, but the larger implications for the world must be drawn out through discussion. Mediators should be relatively well-versed in the scientific content and in the measures presented in the discussion game, so they can clarify misconceptions and guide debate productively. This requires the ability to connect small-scale results to global climate dynamics.

The discussion game may surface potentially problematic or controversial views (e.g., denial, stereotypes, misinformation). This possibility requires sensitive navigation by the facilitators to ensure constructive dialogue. Attentive moderation is necessary to balance power imbalances between participants and maintain respectful communication between all.

Appendix

When this activity is suitable

- When groups are curious and interested about science behind global warming
- When facilitators are confident with both scientific content and group moderation.
- In groups open to hands-on activities and critical discussion. Works also well for audiences with different basic knowledge and learning abilities

When this activity is less suitable

- With audiences who have never been introduced to the topic of climate change or the role of CO₂

Additional resources

- Sketch of Greenhouse Effect Experiment setup (Annex 3: Greenhouseeffekt experiment)
- Sketches and step by step guidance of acidification experiment (Annex 4: Ocean acidification experiment)
- Discussion-Gamecards (German) and translated content (English) (Annex 2: Climate Perspectives)

12. A garden journey: exploring community, culture and ecology

Designed and tested by: Ethnological Museum, Berlin, Germany, Roksolana Ludyn, Südost Europa Kultur e.V.

In brief

Duration	150-165 min
Number of participants	6-20
Number of facilitators	1-3 Optional translator, manager of the community garden, expert on plants
Special materials	Herbs, vegetables, roses etc. which can be harvested and prepared
Objectives	<ul style="list-style-type: none">• Explore community gardens as ecological systems and spaces of cultural exchange• Encourage participation, dialogue, and shared learning among diverse communities• Highlight gardening as cultural expression and ecological stewardship• Raise awareness of plants as carriers of memory, identity, and intergenerational knowledge• Strengthen connection to local nature through sensory activities and shared meals• Foster intercultural connection, empowerment, and environmental responsibility• Understand traditional plant knowledge and its role in local and global sustainability• Compare gardening practices and food systems across cultures and regions• Reflect on environmental and social impacts of monocultures and imported food• Reflecting on global connections between agriculture and climate change
Tested with	17 Ukrainian and Bosnian refugee women.

OVERVIEW

In a workshop held in an intercultural community garden in the center of Berlin, participants explored the ecological and cultural significance of community gardens. Participants learned about the importance of green spaces in cities, got an introduction of the intercultural community garden "Rosenduft", its plants and activities as well as an introduction about a project at the Ethnologisches Museum in Macucu, Colombia, focusing on its community approach and the "library" of traditional medicinal and cultural plants.

The activity invited dialogue on local and global gardening practices, food systems, and sustainability.

A shared meal from garden ingredients was prepared together with the participants. The workshop fostered intercultural exchange and understanding of gardens as spaces of knowledge, connection, and environmental education.

Context

A community garden with plants, herbs and a workshop space.

SUGGESTED SCENARIOS

A community garden with enough free space for a group to sit and prepare food together and have a discussion. To be conducted in summer or early fall, when plants and herbs can be harvested. A welcoming and non-judgmental atmosphere is important, especially towards participants with little knowledge about plants.

Description

The Ethnologisches Museum conducted this activity in collaboration with Roksolana Ludyn, a freelance guide for Ukrainian target groups and with Begzdada Alatovic, who manages the intercultural community garden "Rosenduft" on behalf of the association Südost Europa Kultur e.V. Within the community garden, Begzada Alatovic supports Bosnian refugee women in shaping the garden together with the neighborhood. She also helps them process their war experiences and encourages them to work voluntarily alongside diverse people, fostering a sense of belonging and rooting themselves in Berlin. On a separate day before: it was organized an informal get together in the garden with the Bosnian refugee women who live in Berlin for a longer period and meet there regularly with Ukrainian refugee women who came to Berlin after 2022.

Workshop in the community garden

Part 1: Introduction to the Community Garden and Park in Gleisdreieck, a municipally managed park featuring a comprehensive sustainability concept that seamlessly integrates recreation and ecology. Andrea Scholz presented her project on community gardens in Macucu, Colombia and shares how the neighborhood participates, the significance of the garden, the concept of a "library" of traditional medicinal and cultural plants. The participants were invited to discuss local and global gardening practices, food systems, and sustainability with references to the ecological balance of local and imported fruit and vegetables, as well as the consequences of monoculture cultivation in Colombia.

Part 2: Guided tour through the garden with explanations of the plant species and herbs, and how they are used for various products in the garden workshop. Explanation of plants brought from the Bosnian participants' homeland, such as okra pods or a special Bosnian rose used for rose syrup. A shared exchange about plant varieties that participants remember from their homeland or associate with it. Collecting berries and herbs together, for preparing a meal as a group.

Part 3: Joint preparation of food from the garden for a simple shared meal.

Reflection questions for audience

- Which plants in the garden reminded you of your own home or childhood? Why?
- What role do gardens play in your culture or community?
- How did it feel to work with others in the garden today? What did you enjoy or find meaningful?
- What new plant, herb, or story did you discover that surprised or inspired you?
- How can gardening help people feel more at home in a new place?
- What do you think are the benefits of growing food or herbs yourself?
- What connections do you see between gardening and caring for the environment?
- Is there a recipe, plant, or gardening tradition from your homeland that you would like to share?
- How can we use gardens to bring different communities together?
- What would you like to plant in a future garden and why?
- How can growing your own food or herbs help reduce environmental impact?

- What connections do you see between small gardens and global climate challenges?
- How can traditional plant knowledge contribute to more sustainable ways of living?



TIMING

- Part 1: Short Inputs on the intercultural community garden "Rosenduft", the Park nearby and a colombian community garden, including translation and discussion (approx. 45 min.)
- Part 2: Guided tour through the garden (approx. 45-60 min.)
- Part 3: Discussion while preparing food and eating together (approx. 60 min.)

Materials	Settings	Topics
<ul style="list-style-type: none"> • Herbs, vegetables, roses etc. which can be harvested and prepared • A translator if necessary • Snacks and drinks like coffee, tee and e.g. lemonade with ingredients from the garden • Dishes, cutlery, tableware • Tables, chairs and/or benches 	<p>The activity takes place in a community garden, combining open-air collective moments with small-group practice. A space for plenary exchange is needed for presentations and storytelling, while tables or outdoor cooking areas are useful for tasting and preparing food together. No formal setting is required beyond ensuring an accessible and welcoming environment.</p>	<p>Personal experiences and expertise with plants, biodiversity, local vs. international perspectives on community gardens and sustainability, regional effects of global climate change, traditional plant knowledge and its transmission, sustainable food practices, cultural exchange, strengthening community participation and a sense of belonging.</p>



REFLECTION QUESTIONS

How do you value participants' experience?

This activity integrates scientific information on plants as well as cultural experiences from the participants and the communities presented. In this way, participants are invited to share their perspectives with their peers as well as with the facilitators and experts.

Also, the facilitators motivate the participants to ask questions to topics they are like to know more about to guide the discussions towards aspects the participants are really interested in.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Open questions support opportunities to bring in own experiences, ideas and also questions.

Also asking directly for the participants experiences and emotions create entry points for discussions among the participants. Hands-on materials like plants or products made out of plants help to foster curiosity and discussions about what participants are interested. Hands-on materials also work as entry points for participants to bring in their experiences and expertise and share it with their peers. In this activity facilitators specifically asked for traditional plants, cultural techniques or plant knowledge which participants can remember from their families or their home.

The participants' experience is valued also by emphasizing that sharing experiences is important to build collective knowledge about different kinds of expertise, traditions and myth.

FACILITATOR'S NOTES

- It makes it a lot easier for the process if all participants can speak at least a simple level of the same language and understand each other directly. If it needs translators, it can lead to lose momentum of sharing and discussing things directly with each other or the persons sitting near each other
- Most of the input has to be brought in by the questions and short information engaging the discussion. When situated in a garden and with the perspective to be active, participants want to explore and discuss with each other rather than listening to long lectures

What made the activity work well in this context?

This activity is especially suitable to support intercultural exchange with different target groups and for participants who are interested in the topic of gardens and plants or have experiences to share with the group.

What difficulties emerged (e.g., emotional, relational, logistical)?

If the target groups speak too many different languages or if there are not enough participants who can help out translating. One translator as support for the facilitator(s) will not be enough to bridge language barriers.

Appendix

When this activity is suitable

This activity is especially suitable to support intercultural exchange with different target groups and for participants who are interested in the topic of gardens and plants or have experiences to share with the group.

When this activity is less suitable

If the target groups speak too many different languages or if there are not enough participants who can help out translating. One translator as support for the facilitator(s) will not be enough to bridge language barriers.

13. Connecting with nature: yoga, awareness and insect encounters

Designed and tested by: Ethnological Museum and Grün Berlin, Berlin, Germany

In brief

Duration	120-150 min
Number of participants	6-20
Number of facilitators	3-4 Park management or alternatively expert on green urban planning, expert on the ethnologic perspective on Yoga, Yoga instructor (could also be one person), insect specialist.
Special materials	<ul style="list-style-type: none">• Green space, if possible with a wild meadow nearby• Yoga mats, catch tubes with foam plugs, Children's butterfly net• Flyers on insects, their habitats and biodiversity loss from Bunte Wiese Stuttgart:
Objectives	<ul style="list-style-type: none">• Valuing participants personal experience• Collecting participants perspective on the topic climate change and environment in urban context• Dealing with participants perspective and emotions towards insects: is there fear, disgust, reservations or any other negative emotions? Finding approaches to still spark interest in insects.• Connecting multiple perspectives on climate change: scientific, cultural, personal• Familiarize participants with the local public spaces, the concept of sustainable parks and their value for the climate resilience of large cities
Tested with	7 members of the Ukrainian refugee community

OVERVIEW

Participants explored human-environment relationships through insights into a park's sustainability strategy and the cultural background of yoga and how it is related to human-environment relations, followed by a mindfulness session. The group then discussed the role of insects in urban ecosystems, collected and identified specimens, and reflected on biodiversity, habitat loss, environmental change and discussed what individuals can do on a small scale to protect the insects and their habitats.

Context

The activity was conducted in cooperation with Grün Berlin (Anja Aylin Aydogan, Environment educator), who is managing most of Berlins green spaces. By conducting activities outside the museum building, the museum aimed to counteract the hierarchy and interpretive authority that the museum exudes through the presentation of its collection in the exhibition and also through its location in the Humboldt Forum. To his end, the museum implemented targeted activities in different urban spaces, some of them at the neighborhood level.

The museum also aimed to reach its target groups and a more diverse audience closer in their

everyday environment in a low-threshold manner. The cooperation with Grün Berlin enabled various activities to be carried out in green spaces in different Berlin districts.

This activity took place in the "Park am Gleisdreieck", as its relatively recent history and focus on sustainability, as well as its recreational value for local residents, provide a particularly suitable setting for the educational and experiential elements of the activity.

To deepen the topics of human-environment relations the educational input was combined with a soft Yoga and Mindfulness session as an exercise in perceiving the environment with one's own body and all the senses. The workshop on insects on the other hand emphasized on a hands-on experience and concludes with a lively discussion to encourage participants to take action and leave with a feeling of hope.

SUGGESTED SCENARIOS

Outdoor/ green space, if possible actively managed by the city administration, meadow with wild plants, during spring/summer/early fall, daytime and not too late (because of the insects activity time span), dry weather and mild temperature.

We suggest working together with authorities who are in charge of a park or green space.

The scenario is a meadow in a safe and a bit quieter area of the park.

The participants had to register before but it was also possible to join spontaneously.

Description

WELCOME & INTRODUCTION OF THE ACTIVITY, SEARCHING A PLACE ON THE MEADOW

Part 1 – short lecture by Grün Berlin on the Park am Gleisdreieck and its sustainability strategy

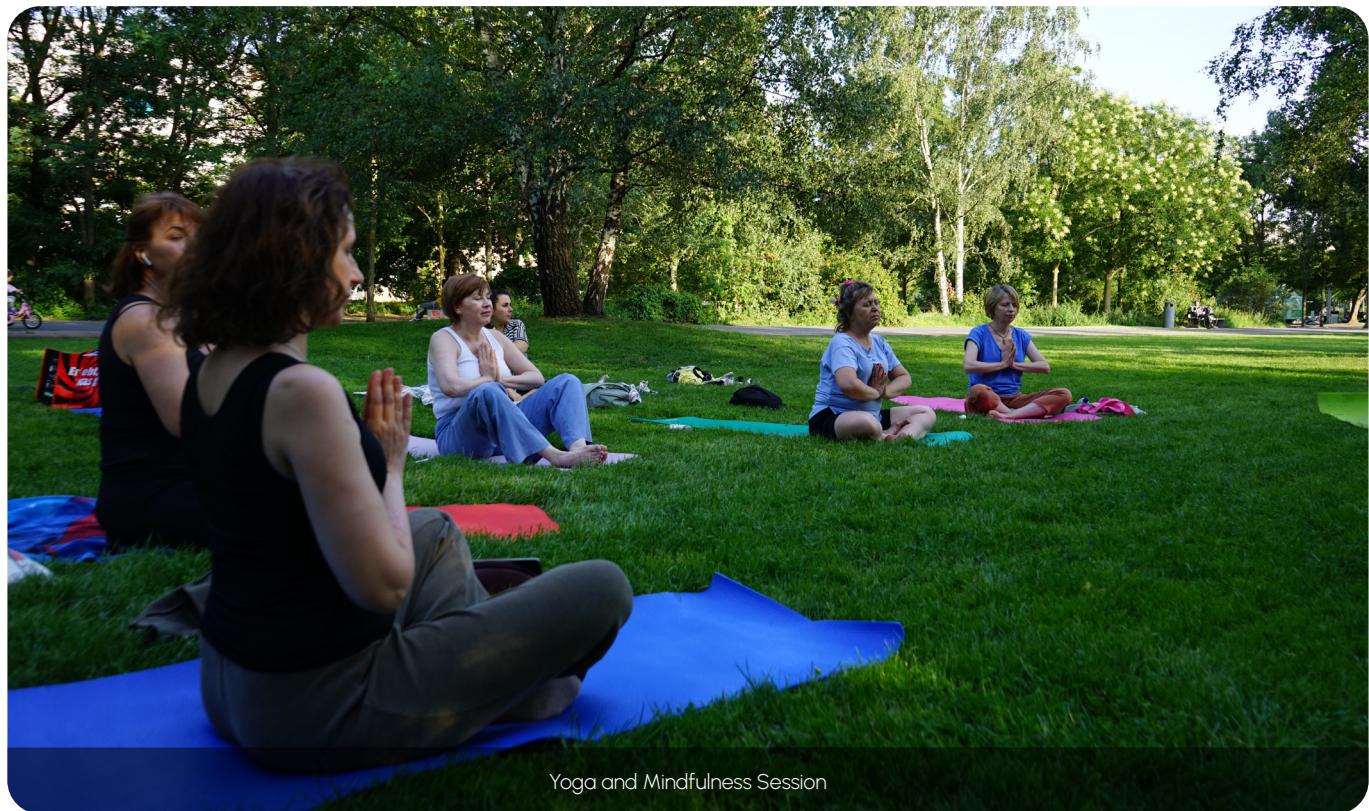
The topic of human-environment relationships was approached by learning about the park's sustainability strategy: Between 2011 and 2013, the "Park am Gleisdreieck" was transformed from a former wasteland into a climate-resilient urban green space. As part of the "GartenLeistungen" (garden services) project, the park enhances ecosystem services like cooling, biodiversity, and water management which are crucial for adapting to urban heat and drought. In "real laboratories", citizens help test sustainable solutions that meet ecological and social needs. Its meadows, woods, and community gardens support biodiversity and reduce the urban heat island effect. Connected to Berlin's green infrastructure, the park improves accessibility and strengthens climate resilience, demonstrating how urban parks can help combat climate change. This input leads to a discussion about in what way nature is important for the participants on a personal level and what aspects they think from their everyday experiences are important on an urban level.

Part 2 - short lecture input by Ethnologisches Museum (SPK) on human-environment relations in other cultures with the example of yoga and mindfulness

The topic of human-environment relationships was broadened by gaining insights into the history and cultural background of yoga and its perspective on the connection between humans and nature. Yoga has its roots in ancient India and is more than just physical exercise, it is a spiritual path that inseparably connects body, mind, and nature. In many non-Western cultures, such as Indian traditions, nature is seen as a living part of the cosmos, with which harmony is sought. Mindfulness also originates from Buddhist practices and promotes awareness of the present moment as well as a respectful life in harmony with the environment. Unlike the often dualistic view in the West, yoga and mindfulness emphasize the interconnectedness of all living beings and support an attitude of compassion and responsibility towards nature and other creatures.

Part 3 – Yoga and Mindfulness Session

In the practical part, participants were invited to take time to become present and open to their surroundings through a guided yoga session. The session began with gentle movements, stretches, and breathing techniques to help participants to relax and become more aware of their connection to the environment. Finally, a short guided meditation encouraged participants to connect deeply with nature and their shared habitat. Brief reflection with the participants: How does the connection to nature feel in this moment? An invitation to carry this attitude into everyday life with more mindfulness, greater respect for nature, and appreciation for other cultures that value the connection to nature more deeply.



Yoga and Mindfulness Session

Part 4 – Exploring and getting to know local insects

During the yoga session, an insect specialist scanned the surroundings for insects and caught some individuals in plastic containers for demonstration. They were observed and released by the participants during the discussion round, which followed the yoga session.

During the discussion about insects, participants collected and identified some insects themselves. Although insects face severe biodiversity loss, they still thrive in even small patches of wild nature, like a flower pot by a window. Their needs, wild plants and undisturbed nesting sites, can be met with little effort. The input lecture referred to the Krefeld Study, highlighting the drastic decline in flying insect populations and raising awareness among policymakers. Key topics of the educational part included the ecosystem services insects provide, causes of their decline, and how to identify insect groups like flies and wild bees.

To counter fear and sadness about biodiversity loss, the importance of wild plants was also discussed. Flyers from "Bunte Wiese Stuttgart" offered practical tips on food plants for wild bees and facts about insect decline. The workshop ended with a stroll along the edge of the meadow, getting to know important host plants for insects. Overall, the message was emphasized how much fun and insight can come from taking a closer look at the world around us.



Observation and release of insects by the participants during the discussion.

TIMING

- Part 1 - short lecture input by Grün Berlin on the "Park am Gleisdreieck" and its sustainability strategy (approx. 15 min. including Q&A)
- Part 2 - short lecture input by Ethnologisches Museum (SPK) on human-environment relations in other cultures and the cultural and historic context of yoga and mindfulness (approx. 15 min. including Q&A)
- Part 3 - Yoga and Mindfulness Session (app. 30-45 min.)
- Part 4 - Exploring and getting to know local insects (app. 45-60 min)

REFLECTION QUESTIONS FOR THE PARTICIPANTS

- In what ways has your understanding of the relationship between humans and the environment changed through the ethnological perspectives shared?
- What new insights did you gain about the importance of insects for our ecosystem?
- How does a personal connection to nature feel for you?
- What small changes can you make in your daily life to respect and protect nature more consciously?
- How does mindfulness help you sharpen your perception of the environment?
- What surprised or moved you the most during the workshop?
- What role do you think communities and cultures play in promoting sustainable relationships with nature?
- How could you share what you learned with others or bring it into your community?
- What challenges do you see in maintaining a connection to nature in modern everyday life?

Materials	Settings	Topics
<ul style="list-style-type: none"> · Green space, if possible with a wild meadow nearby · If necessary, a translator · Yoga mats, catch tubes with foam plugs, Children's butterfly net · Flyers on insects, their habitats and biodiversity loss from Bunte Wiese Stuttgart: · https://www.buntewiese-stuttgart.de/media/files/01_insektensterben.pdf · https://www.buntewiese-stuttgart.de/media/files/02_nahrung-fuer-wildbienen.pdf 	<p>As the activity takes place in a community garden, no specific setting arrangement is required. The outdoor environment itself provides the context for learning, exchange, and collective action.</p>	<p>Climate change, environment, biodiversity loss, human-environment-relations, wild nature and its importance for urban ecosystems. With this activity, the museum aims to combine the cultural and physical aspects of experiencing nature with insights into urban sustainability strategies for dealing with climate change and a participatory research-based educational activity.</p>

REFLECTION QUESTIONS FOR THE DESIGNER/FACILITATOR

How do you value participants' experience?

Before each activity, the facilitators initiated a dialogue between the participants about their previous experiences, interests, feelings, fears, and knowledge with regard to yoga and mindfulness, but also with regard to insects. This allowed the participants to receive individual support during the activities and to incorporate their experiences into the activities. Even participants who were initially reserved were valued, as they were able to contribute their curiosity and interest in observing the insects at their own pace and to their own extent by first observing the other participants interacting with the insects.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Open questions support opportunities to bring in own experiences, ideas and also questions. Also asking directly for the participants experiences and emotions create entry points for discussions among the participants. Hands-on materials help to foster curiosity and discussions about what participants experience or observe in the exact moment. Also point out surprising facts or fun aspects which make participants laugh and feel ease with the topic help to reduce barriers to bring in own experiences and perspectives.

FACILITATOR'S NOTES

- The mix of varied modules worked well: input/ educational formats, body movement, practicing observing own emotions and the environment, opportunity to explore the insects of the environment hands-on
- Difficulties: It is better to find the exact spot for this activity before but spontaneous changes may be necessary (large noisy groups nearby, construction work, etc.). It could be necessary that the insects expert catches the insects beforehand to make sure the group can observe and discuss a few individuals. In educational formats experienced experts can also guide the participants to catch insects themselves. However, it is not certain, that the participants will be able to catch insects themselves. It is therefore important to catch insects already during the Yoga session to be prepared.

Appendix

When this activity is suitable

- The group needs a bit of an existing trust bond, especially regarding the yoga module and the exploring of the insects, but it also helps if some individuals of the community already know the

facilitator or the translator to create a trustful atmosphere also for newly interested participants

- The yoga module has to be created responsive on the groups interest. It was announced very light exercise sessions so that the exercise would be accessible to everyone. If the group is interested, the difficulty level of the exercises can be increased spontaneously.
- It needs a free space which is also not overly populated by visitors, so it also provides a bit of privacy
- It helps to feel safe if the green space is managed by the municipality.
- The absence of groups that appear dangerous or dominant is important.
- The activity aims to exploring the green space, insects and doing exercises outside: it is a summer activity which needs sunny weather, Ideally during the day, as there are fewer insects in the evening

When this activity is less suitable

- Activities with a part of reflecting inwards in general like emotions, the perception and thoughts of the moment are not suitable for individuals or groups of high levels of unprocessed trauma
- In places with limited privacy or safety
- Complex instructions (e.g., mindfulness, insect identification) are inaccessible without multilingual materials or interpreters.
- Some communities may view yoga or meditation as foreign or inappropriate, especially if not presented in a secular, culturally sensitive way.

Additional resources

- [Park am Gleisdreieck - English website](#)

- [Kowarik2015Gleisdreieck_Howurbanwildernessbecamepossibleinthenewpark.pdf](#)

Lichtenstein, Andra/Mameli, Flavia A. (Hrsg.) (2015): Gleisdreieck: how Urban Wilderness Became Possible in the New Park. In: Dies. (Hrsg.): Gleisdreieck / Park Life Berlin. Bielefeld: Transcript, S. 216–221. DOI: 10.14361/9783839430415-025

14. Protective beings – The superpowers of nature

Designed and tested by: Yorleny Cardozo Peña and Ethnological Museum, Berlin, Germany

In brief

Duration	120-150 min
Number of participants	6-15
Number of facilitators	2-3 (translator optional, local biodiversity/animal habitat expert, expert on cultural perspectives on human-animal relations)
Special materials	<ul style="list-style-type: none">Digital microscopes, insects samples, soil samples, seeds, a herbarium,Profile cards with different animals and their characteristics
Objectives	<ul style="list-style-type: none">Valuing participants personal experienceCollecting participants perspective on the topic biodiversity and human-animals-relationsConnecting multiple perspectives on biodiversity: artistic, cultural, biological, personalFamiliarize participants with the local animal species and compare them to other species in their homeland and in Colombia.Fostering an understanding of how various animal species influence Berlin's urban ecosystem and what key elements are vital for their survival.The importance of cultural perspectives on the relationship between humans and animals and the perception of animals as coexisting partners in a shared ecosystem.References to the context of global climate change and its regionally varying manifestations may be considered.
Tested with	6 Ukrainian women and 3 children

OVERVIEW

Participants explored animal symbolism in the intervention *La voz de la montaña* by artist and educator Yorleny Cardozo Peña and reflected on human-animal connections.

In an artistic research laboratory, the participants examined insects, soil, and seeds from Colombia under digital microscopes and created drawings. A discussion about local species from Berlin complemented the global view. In the last part, participants created personal protective figures. The workshop aimed to connect artistic, biological, and cultural perspectives on biodiversity, while valuing personal experiences and exploring human-animal relationships across contexts.

Context

On Occasion of Yorleny Cardozo Peña's CoMuse fellowship at the Ethnological Museum, the workshop "Protective Beings – Nature's Superpowers" was tested with Ukrainian refugee women and children. The Workshop starts with a visit in the exhibition discussion artists intervention *La voz de la montaña*, a Panorama which presents historic indigenous statues with animal traits of the Archaeological Park of San Agustín, but also the landscape, flora and fauna

of the park. The hands-on parts of the workshop take place in the museums' workshop space, so participants have enough space to explore and be creative. To connect the insights from Colombia and the Archaeological Park of San Agustín with the local fauna, the museum invited Daniela Pasdzierny, an environment educator from Grün Berlin, for an interactive format on the "super powers" and surprising characteristics of local animals.

SUGGESTED SCENARIOS

A workshop room with enough table space for the artistic research lab and the creation of the protective beings. A piece of art as example of an artistic approach on the relation of culture and nature as well as human-animal relations.

This workshop has to be adapted for other contexts but there are plenty opportunities to link cultural or artistic topics of other institutions to the artistic research lab and the other parts of this activity.

Description

Part 1

On the occasion of the CoMuse fellowship of Colombian artist Yorleny Cardozo Peña at the Ethnological Museum, the workshop "Protective Beings - Nature's Superpowers" was tested. Yorleny Cardozo Peña works as an art educator at the Instituto Colombiano de Antropología e Historia (ICANH). The workshop contains a presentation of the artistic intervention *La voz de la montaña* by Yorleny Cardozo Peña. It is a Panorama presenting the statues of the Archaeological Park of San Agustín, made of volcanic rock, bear animal traits such as claws, fangs, or wings, but also the landscape, flora and fauna of the park. The presentation was mixed with a discussion on how the participants feel connected to animals and their specific traits.

Part 2

Afterwards, participants were invited to take part in an artistic-research lab, for which they digital microscopes were provided. Yorleny Cardozo Peña brought insects, soil samples, seeds, and a herbarium of her own creation from Park San Agustín. Participants could examine these samples with the microscopes and discover materialities and structures. The participants were also invited to draw structures they discovered in the microscope.

Part 3

Yorleny Cardozo Peña also provided cards with animals from Colombia, which explain their traits and habitats. The participants presented their favorite animal card and learned how diverse habitats and their creatures can be, how they shape cultural identity, and how interdependent we are. On the front of the card are pictures of animals and their names in Spanish, Ukrainian and German. On the back is information about the animal, its superpowers, and a short profile. The participants introduce the animals to each other in small groups, possibly with a guessing game to determine which superpowers are attributed to which animal, and then solve the puzzle.

Part 4

Complementing the insights from San Agustín, Colombia, Daniela Pasdzierny from Campus Stadt Natur/Grün Berlin GmbH presented some examples of local animal species from the local Stadtheide Tegel, and the role the animals play in the local ecosystem.

Daniela Pasdzierny consciously chose some species who also live in Ukraine. The participants discussed how the life of the presented animal species is shaped in Berlin's urban space, their contribution to the local ecosystem and in their interactions with the city's human inhabitants.

Part 5

At the conclusion of the workshop, the participants created their own protective figures to strengthen their own "superpowers" in dealing with biodiversity. One can draw or create collages of protective figures with superpowers that one would like to have as a "spirit animal" for your everyday life and take home.

TIMING

- Part 1: Introduction to the Biodiversity Panorama with the artist, discussion about climate and biodiversity in Colombia, including translation (approx. 30 min.)
- Part 2: Artistic research lab in the workshop room: Examination of insects, plants, and soil samples using digital microscopes, drawing structures. Including translation. (approx. 30 min.)
- Part 3: Discussion and peer learning on Colombian animals' superpowers with profile cards (approx. 30 min.)
- Part 4: Lecture on the Stadtheide Tegel (Tegel Heath landscape) and its biodiversity, with discussion and peer learning on Berlin animals' superpowers with profile cards, comparing them to Colombian and Ukrainian Animals. (approx. 30 min.)
- Part 5: Creating own protective beings (approx. 30 min.)



Resources	Settings	Topics
<ul style="list-style-type: none"> • If necessary, a translator • Digital microscopes, insects samples, soil samples, seeds, a herbarium, • Profile cards with different animals, their characteristics, habitats and other interesting or surprising information • Cardboards, paper, colored pencils, felt-tip pens, scissors, glue 	Museum exhibition, indoor workshop space	Personal experiences with nature, biodiversity and human-animal relations, artistic, cultural, biological, personal perspectives, local vs. international animal species, urban ecosystem and species survival, cultural meanings of human-animal coexistence, regional effects of global climate change.

REFLECTION QUESTIONS FOR THE DESIGNER/FACILITATOR

How do you value participants' experience?

This activity integrates artistic and cultural approaches as well as scientific information on animals. That way, participants are invited to share their experiences and their personal stories why animals are important to them and why and what experience participants made with wild urban animals. The peer learning part opens up discussions between participants and well as with the facilitators and experts. Also, the facilitators motivate the participants to ask questions to topics they are like to know more about to guide the discussions towards aspects the participants are really interested in.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

The mixed approaches combining cultural, personal, artistic and scientific perspectives on animals and their habitats support bringing in own experiences, thoughts and questions. Also asking directly for the participants experiences and emotions create entry points for discussions among the participants. Hands-on materials like insects, soil and rock samples, a herbarium or the animal samples profile cards help to foster curiosity and discussions about what participants are interested. Hands-on materials also work as entry points for participants to bring in their experiences and expertise and share it with their peers. In this activity facilitators specifically asked for their relations and encounters with wild urban animals. The participants' experience is valued also by emphasizing that sharing experiences is important to learn from each other, build collective knowledge and get to know other peoples' perspectives.

REFLECTION QUESTIONS FOR THE PARTICIPANTS

- Which animal traits do you personally relate to and why?
- What memories or feelings came up during the artistic presentation?
- How do you feel connected to nature in your everyday life?
- What information about the cultural meaning of animals in Colombia and Berlin is interesting or important to you?
- How do animals shape identity in your culture?
- Were there similarities between the species from Colombia, Berlin, and your own homeland?
- What role do animals play in urban ecosystems like Berlin?
- How do you think climate change affects biodiversity, locally and globally?
- What surprised you when exploring the samples under the microscope?
- What qualities did your protective figure represent?
- How can we use imagination and art to support biodiversity?
- What "superpower" would you like to strengthen to help protect nature?

FACILITATOR'S NOTES

- If the group is only adult the last part (creating the protective beings) should be canceled. Instead, drawing structures from plants and creating decorative patterns can be a replacement
- The mix of varied modules worked well: input/ educational formats, creative parts, opportunity to explore hands-on
- Difficulties: the groups interests can vary, it is also possible to offer different opportunities at the same time, so participants can explore what is most interesting to them a longer period of time or to move on to the next part faster

Appendix

When this activity is suitable

- Ideal in contexts that link ecology with cultural heritage, such as museum education, intercultural learning, or global citizenship programs
- Working with diverse, international groups: Especially effective when participants come from different cultural backgrounds and can compare experiences (e.g., migrants, exchange students, intercultural youth groups)
- When there is a need to build confidence through creative, hands-on learning
- When participants benefit from non-verbal, sensory methods like drawing and using microscopes
- When addressing cultural identity and diversity helps build trust and relevance
- When the group includes people with refugee or migration backgrounds who can relate to cultural perspectives on animals and nature, finding connection and belonging through them.

When this activity is less suitable

- When participants have very limited attention span or high stress levels that make engagement in detailed activities difficult
- When participants lack basic language skills and no interpretation or multilingual support is available, making communication too challenging
- When the setting is very large or if one plans for a big group limiting space for personal sharing and hands-on activities
- When the participants have physical or sensory impairments that cannot be accommodated for microscope or drawing activities
- When the workshop's focus on animals doesn't resonate with the group's interests

Additional resources

- See "Annex 6: Animal profile cards" for an impression of the animal profile cards

15. Exploring the Stadtheide – Nature and connection

Designed and tested by: Ethnological Museum and Grün Berlin, Berlin, Germany

In brief

Duration	120 min
Number of participants	5-25
Number of facilitators	1-3 (translator and insect expert optional)
Special materials	<ul style="list-style-type: none">White postcards and glue to create "meadow postcards" by imprinting plants and sandDigital microscopes and tabletsSun screen for the tour, since the sun can be very hot on an open space
Objectives	<ul style="list-style-type: none">Provide knowledge about the impacts of human activities on the environment and climate in an urban context.Promote conscious and mindful interaction with the natural environment through sensory perception (hearing, seeing, feeling)Strengthen the connection between people and their local environment to foster a sense of responsibility for nature conservation.Raise awareness of the importance of urban green spaces as vital ecological and climate resources.Learning about others perspectives on wild herbs and flowersTraining detailed observation of wild herbs and flowersLearning about historical and cultural approaches on wild herbs and flowersExplore the role of mythology and storytelling in shaping environmental awareness.Fostering creativityInspire sustainable behavior through direct experience and reflection on one's relationship with nature.
Tested with	13 Ukrainian refugees, 12 women and 1 man

OVERVIEW

Participants were welcomed with a light-hearted introduction involving their favourite urban animals and plants. The group then explored the Tegeler Stadtheide (Tegel City Heath) through a guided, interactive tour, including field microscopy and creative plant research.

In the workshop phase, participants presented their plant findings and shared personal experiences related to nature and plants. An ethnological input provided deeper insights into the cultural and historical meanings of certain plants. The session concluded with a mental mapping activity and a feedback round in a closing circle.

Context

The Ethnologisches Museum conducted this activity in cooperation with Daniela Paszkierny, an environmental educator working for Grün Berlin gGmbH. Grün Berlin manages most of Berlin's Parks and green spaces which also includes a diverse and site specific environment education program. Through this activity, Grün Berlin and the museum aimed to bring together Ukrainian refugees who have been living in Berlin for some time and those who have recently arrived and are living in a welcome centre on the former Tegel Airport site, next to the Tegeler Stadtheide.

The activity was carried out on an accessible outdoor space, characterized by wild meadows and plants. Ideally, the green space would be home to various insects and birds.

Unfortunately, by the time our tests were conducted, most migratory birds had already left the area heading south, and as a result, there was hardly any birdsong to be heard.

The second part of the activity was carried out in a summer pavilion on the Tegeler Stadtheide, equipped with tables, chairs, light and electricity. The pavilion also provided shade and cool shelter from the hot temperatures.

SUGGESTED SCENARIOS

- Setting: an accessible public green space like a park with wild herbs and plants, for the sound mapping there have to be birds as well.
- Ideally the green area is situated near residential areas from communities of the target group, fostering inclusivity and connecting people to nature in their own neighborhood. It is a spring, summer or early fall activity (because of the plants and insects). Since it is an outdoor activity, good weather is also important.
- A workshop room very nearby is helpful, but the workshop can also be conducted in the outdoors, depending on the weather. Ideally, there is a well-lit, ventilated room equipped with tables and chairs. Both spaces should be easily accessible and located close to one another to ensure a smooth transition between the tour and the workshop.

Description

Part 1: Interactive guided dialogical tour of the grounds of Tegeler Stadtheide (natural heath and meadow area located in Berlin-Tegel):

The session began with a warm welcome, during which participants received name tags and introduced themselves by sharing their favorite urban animals and plants. It was followed by an interactive, dialogue-based tour through the Tegeler Stadtheide, a natural heath and meadow area in Berlin-Tegel. While a sound-mapping activity had been planned at the fire beacon, it was replaced with field microscopy due to the absence of migratory birds and ambient sounds. Using digital microscopes and tablets, participants explored the local flora, drawing and naming the most interesting plants they found.

This part can be conducted as an individual exercise or as teamwork as well ("Team plant", see attachment).

Part 2: Workshop and discussion in a workshop space

The second part of the session was held in a nearby workshop space. Everyone presented their plant drawings and the names they invented for them. The group also shared personal stories, knowledge, and cultural associations related to plants. An ethnological input deepened the discussion by offering insights into the historical and cultural significance of selected plant species. Optional activities such as creating meadow postcards or searching for insects complemented the experience. Finally, the group came together for a collective "mental mapping" exercise, where they shared memories of meaningful natural places, and concluded the day with a short reflection and feedback round.

TIMING

- Welcome: Arrival and distribution of name tags, introduction with favorite animal (10 minutes)
- Part 1: Interactive guided dialogical tour of the grounds of Tegeler Stadtheide (natural heath and meadow area located in Berlin-Tegel) (Approx. 50 minutes)
- Part 2: Workshop and Discussion in a workshop space (approx. 50 min.)
- Closing circle and sharing feedback (appr. 10 min.)



Guided tour on the biodiversity and wild plants and animals of Stadtheide Tegel, the former Airport Berlin Tegel.

REFLECTION QUESTIONS FOR THE PARTICIPANTS

- What surprised you most about the plants or landscape today?
- Did you notice something you normally wouldn't pay attention to in nature?
- How did using the microscopes change your view of plants?
- What inspired the name you gave to your plant?
- How did it feel to create something from natural materials?
- What does your "meadow postcard" say about your view of nature?
- Did you learn something new about how plants are used in different cultures?
- How can these types of activities help raise awareness about biodiversity?
- What role do urban green spaces play in your life?
- Did you connect with someone today in a new or unexpected way?
- How did working in a group influence your experience?
- Which natural place (from today or your past) holds special meaning for you, and why?

Materials	Settings	Topics
<ul style="list-style-type: none"> Paper, clipboards, (colored) pencils, felt-tip pens or similar White postcards and glue to create "meadow postcards" by imprinting plants and sand Digital microscopes and tablets A separate workshop space with tables, chairs Water and fresh fruits and sunscreen for the participants Sun screen for the tour, since the sun can be very hot on an open space 	<p>No specific setting is required for this activity</p>	<p>Urban nature and biodiversity, wild herbs and flowers worth for the urban ecosystem, use of digital microscopes and technology, cultural and ethnological significance of plants, sharing personal experiences and traditional cultural knowledge of plants, teamwork and social interaction, creative expression, environmental soundscapes, personal connections to natural places.</p>

REFLECTION QUESTIONS FOR THE DESIGNER/FACILITATOR

How do you value participants' experience?

The activity consists of different parts: a dialogical tour, in which participants are encouraged to ask questions and lead the discussion to aspects they are most interested in. On the other hand, there is also time for participants to explore plants (and sounds) themselves and share their creative research, findings and drawings not only with the group but also with facilitators and experts. The fact that the activity combines perspectives from the natural sciences as well as from ethnological information and creative approaches makes it easier for participants to share their experiences and knowledge.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

As facilitators, we value participants' experiences by centring their voices, honouring their knowledge and emotions, and creating a space where everyone feels empowered to contribute and connect. Our role is not only to guide the activity, but also to listen, support, and co-create with the group.

We centred participant-led discovery: When participants used digital microscopes to explore and then drew and named the plants they found, we valued their curiosity and creativity. By letting them invent names and share their drawings, we affirmed that their observations and interpretations are valid and valuable, not just the "correct" scientific names. Also by inviting participants to share personal stories, knowledge, and cultural associations related to plants, we showed that their lived experiences and cultural backgrounds enrich the collective understanding of nature. This approach values diversity and deepens the group's connection to the environment. Offering both individual and team-based options ("Team plant") and complementary activities allowed participants to engage in ways that suited their preferences. This flexibility values their autonomy and different ways of learning. By facilitating a collective reflection round, we created space for participants to share meaningful memories and personal reflections. This shows that their emotional and cognitive engagement are valued, not just their physical participation.

FACILITATOR'S NOTES

- With this activity we were able to engage Ukrainian refugees living in a welcome center nearby. However, the green space is generally located on the outskirts of Berlin, which means it is not easily accessible for many people. This may have contributed to the relatively low number of visitors from the other Ukrainian people living in other areas of the city.
- Stable weather or weather forecasts can also influence how many people actually attend the activity. On the day of the event, the weather was very sunny. If a large part of the activity has to be conducted inside, the setting has to be prepared with different examples of dried wild plants and herbs which can be explored in the workshop room as well.

- We had electrical cars for the tour since the area is quiet spacious. Beforehand, it has to be clarified how mobile the participants are and to what extent they are able to walk around and explore plants by themselves.

Appendix

When this activity is suitable

- Suitable for small to medium-sized groups that benefit from personal exchange and shared reflection
- Ideal for mixed-age youth or adult groups with interest in nature, creativity, and cultural perspectives
- Great for settings that allow outdoor exploration and provide space for hands-on, creative activities
- Works well when there's enough time for immersion, dialogue, and personal engagement

When this activity is less suitable

- Not suitable for people with physical disabilities limiting fine motor skills
- Not suitable for very young children
- Not suitable for participants with severe allergies to certain wild plants or herbs
- Not suitable for groups with very limited time, as the workshop requires focused, hands-on engagement
- Not suitable for very large groups: the activity is also about sharing perspectives and perceptions. If the group gets too large, the atmosphere becomes more anonymous which can affect the openness to share personal insights
- Not suitable for settings without adequate space or materials for creative work

Additional resources

- annex 8 description of "team plant"
- annex 9 "Tierarten_Superkräfte"



Participants drawing plants at Stadtheide Tegel.

16. Exploring nature at Kienbergpark

Designed and tested by: Ethnological Museum and Grün Berlin, Berlin, Germany

In brief

Duration	120 min
Number of participants	5-20
Number of facilitators	1-3 (translator optional, 1 plant and insect expert from the educational garden, 1 facilitator for the acoustic mapping (could also be the same person)
Special materials	• Bee-eye lenses
Objectives	<ul style="list-style-type: none">Promote conscious and mindful interaction with the natural environment through sensory perception (hearing, seeing, feeling).Strengthen the connection between people and their local environment to foster a sense of responsibility for nature conservation.Raise awareness of the importance of urban green spaces as vital ecological and climate resources.Encourage social participation and inclusion by conducting the activity in a less privileged urban area.Provide knowledge about the impacts of human activities on the environment and climate in an urban context.Inspire sustainable behavior through direct experience and reflection on one's relationship with nature.
Tested with	5 women and 5 children

OVERVIEW

This activity took place in collaboration with Grün Berlin in Kienbergpark, a park on the outskirts of Berlin serving a socioeconomically diverse community. It began with a web-building icebreaker, which invited participants to introduce themselves by sharing their associations with nature. They then explored the park's educational garden using bee-eye lenses to experience plants from an insect's perspective, sharing cultural connections to flora. The session concluded with acoustic mapping, where participants created sound maps of the park's natural and urban soundscape, deepening their awareness of ecological and human-made environments. The activity fostered inclusion, cultural exchange, and sensory engagement with urban nature.

Context

This activity was conducted by the Ethnologisches Museum in cooperation with Katja Czerwinski, an environmental educator working for Grün Berlin gGmbH. Grün Berlin manages most of Berlin's parks and green spaces, as well as a diverse, site-specific environmental education programme. Through this activity, Grün Berlin and the museum aimed to adapt their programme to cater specifically for Ukrainian refugees and migrants living on the outskirts of eastern Berlin. As the museum is located in the tourist centre of the city, it was important to conduct activities in neighbourhoods with lower socioeconomic standards. The activity was carried out on an accessible outdoor space, characterized by wild meadows and plants. A teaching garden

is also part of the park and was used to introduce various wild and cultural plants as well as for exploring insects.

SUGGESTED SCENARIOS

The green space should be ideally home to various insects and birds. For this activity, it was also important that the green space consisted of varied vegetation, such as meadows, forest, a river, and a lake. This was important to be able to discover and identify different noises and sounds in the environment during the exercise "acoustic mapping". It is an activity for spring until early fall, since this activity is conducted outside and focuses on plants, insects and a varied vegetation. Stable weather is very helpful, but it is also important to have an alternative program in case of rain.

Description

Part 1

Welcome and group introduction with an icebreaker: The group stands in a circle. One person begins by introducing themselves with an association related to nature while holding a string. Then they choose another person in the circle and pass the string to them, who then introduces themselves. This process continues until everyone has introduced themselves, creating a web in the center of the circle through the passing of the string.

Part 2

The Kienbergpark includes an educational garden with various plant species. In the first part of the workshop, participants toured the garden and used bee-eye lenses (optical devices that mimic the compound eyes of insects) to explore the plants from an insect's perspective. The group discussed which plants were familiar from their home countries and talked about the value these plants hold for different insect species.

Part 3

Acoustic Mapping: the participants explored the Kienberg Park while actively listen to the sounds of a specific environment to drew a "sound map" with the sources they perceived. This map highlights the different natural and human-made sounds present in the area, such as bird calls, water flows from a stream nearby, wind, or urban noises. The process encourages heightened auditory awareness, helping participants connect more deeply with their surroundings, understand the ecological characteristics of a place, and reflect on how soundscapes influence environmental health and human well-being.

Part 4

At the end, the participants presented their personal sound maps and exchanged their perceptions in a reflection round.

TIMING

- Part 1: Welcome and Ice Breaker (approx. 15 min.)
- Part 2: Exploring the educational garden (approx. 45 min.)
- Part 3: Acoustic Mapping (approx. 45 min.)
- Part4: Reflection round (approx. 15 min.)



REFLECTION QUESTIONS FOR THE PARTICIPANTS

- What new sounds or sensations did you notice in the park that you hadn't before?
- How did focusing on your senses change your perception of the environment around you?
- In what ways do you think urban green spaces like this park contribute to climate resilience?
- How connected do you feel to this local environment after the activity?
- What actions could you take in your daily life to support the health of urban ecosystems?
- What actions to do expect from the administration and the society which are not your personal responsibility?
- How does this experience influence your understanding of environmental justice in cities?
- Were there any moments that challenged your previous ideas about nature or the city?

Materials	Settings	Topics
<ul style="list-style-type: none"> • A translator if necessary • Bee-eye lenses • Paper, clipboards, colored pencils, felt-tip pens or similar 	<p>A public outdoor space with an educational garden as well as trees and a stream as natural urban resource, a meadow and open air workshop space.</p>	<p>Sensory awareness and experiencing natural environments, Human-nature relationships and fostering environmental stewardship, the ecological role and importance of urban green spaces, sustainable resource use and conservation in city landscapes, personal and collective responsibilities toward climate action.</p>

REFLECTION QUESTIONS FOR THE DESIGNER/FACILITATOR

How do you value participants' experience?

This activity fosters two-way dialogue by incorporating interactive and physical activities, such as paired silent sharing on yoga mats and collective mental mapping, which require active participation from everyone. The performative walk and mindfulness exercises create a shared sensory experience, levelling the playing field between experts, facilitators and participants. Group discussions, such as those with Flussbad Berlin, are structured as open exchanges in addition to a rather short informative lecture, ensuring that participants' questions and ideas directly influence the direction of the conversation. Facilitators act as intermediaries, synthesising contributions into the final map, which visually reflects the collaborative creation of knowledge.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

From the outset, participants' experiences are centred through personal storytelling (e.g. the icebreaker on water memories) and embodied reflection during the walk, which validates their unique perspectives. The silent pairing exercise at the Flussbad site prioritises deep listening, ensuring that every voice is heard equally. By linking individual emotions and memories to the collective mental map, the activity transforms personal narratives into shared resources for envisioning the future of the Spree. This approach positions participants as active agents, rather than observers, in shaping urban and ecological narratives.

FACILITATOR'S NOTES

- Since the Kienbergpark is located on the outskirts of Berlin, it was rather a long ride for people living not directly in that area.
- The weather forecast on the day we conducted the activity was rather unstable. This and the location on the outskirts of Berlin could have led to the rather small group of participants.
- It would have been helpful to promote this activity more actively in the local neighbourhood beforehand, rather than targeting different Ukrainian communities living in different districts.
- For the case of rain we prepared a domino game featuring various parks, city squares, plants, and wildlife in Berlin as a basis for discussion. This means that Berlin's biodiversity can also be presented in a workshop room if necessary. It is also important to incorporate the personal experiences and knowledge of the participants by asking specific questions.

Appendix

When this activity is suitable

- Ideal for marginalized or peripheral communities in cities, connecting diverse groups to local green spaces and fostering environmental awareness.
- Especially suitable for migrants, refugees, or multicultural audiences, as activities incorporate personal/cultural plant knowledge and sensory exploration.
- Playful, hands-on methods (e.g., bee-eye lenses, sound mapping) engage children (10+), teens, and families with no prior expertise needed. Thus, this activity is especially suitable to cater topics to parents and their children alike.

When this activity is less suitable

- Not suitable for very large groups: the activity is also about sharing perspectives and perceptions. If the group gets too large, the atmosphere becomes more anonymous which can affect the openness to share personal insights
- Not suitable for participants who are physically impaired or have limited mobility.

17. Performative mapping – A walk at the river Spree

Designed and tested by: Walmeri Ribeiro, NGO Flussbad Berlin e.V., Ethnological Museum, Berlin, Germany

In brief

Duration	150 min
Number of participants	6-16
Number of facilitators	1-3 (translator optional, 1 plant and insect expert from the educational garden, 1 facilitator for the acoustic mapping (could also be the same person))
Special materials	
Objectives	<ul style="list-style-type: none">• Raise awareness of the urban river space as a social, ecological, and cultural environment• Strengthen the connection between body, memory, and landscape through performative and mindful methods• Encourage reflection on resource use and justice in the context of the city• Collectively explore future perspectives for sustainable and community-oriented water use• Exploring new ways of engaging with the environment through movement, sensory awareness, and creative practices
Tested with	6 Ukrainian and Bosnian refugee women

OVERVIEW

This guided performative tour and mental mapping of the Spree Island explored the river as a social and ecological space. It was conducted in cooperation with Brazilian curator Walmeri Ribeiro and the NGO Flussbad Berlin e.V. Participants engaged through mindful walking, sensory awareness, and storytelling to connect body, memory, and environment. At the Flussbad site, they shared personal water-related experiences. A final mapping session visualized past, present, and future relationships with water, highlighting visions for sustainable urban living. Flussbad Berlin also introduced historic, contemporary and future concepts of a swimmable city as part of the debate on who has access to urban resources.

Context

The Ethnological Museum's exhibition site is located on the Humboldt Forum on Spreeinsel (A small museum island in the middle of the Spree River) in the tourist centre of Berlin. The Humboldt Forum in Berlin has been a subject of public debate, especially regarding its accessibility and inclusivity for citizens. Critics argue that its programming and exhibitions often cater to touristic, elite or academic audiences, making it less approachable for the general public. Supporters highlight efforts like educational programs, but discussions continue about how well it truly serves as a "citizens' forum" and represents diverse voices in German society. To break out of the building which is partly perceived as hierarchy and dominant. To break up

the Humboldt Forum building's perceived dominance and hierarchical aesthetics, the museum decided to take some of its themes and educational activities outside the exhibition, including this activity. This was also done to introduce participants to subjects at the intersection of the direct urban environment of the building and the museum's environmental ethnological topics. This guided performative tour of Spree Island and mental mapping was conducted in cooperation with Walmeri Ribeiro, a Brazilian curator who investigates the relationships between art and science, particularly with regard to issues concerning the Anthropocene and resource justice. It was also conducted in cooperation with the association "Flussbad e.V.", which is located close to the Humboldt Forum. The association advocates for a swimmable, and thus the cleanliness and sustainable management of the inner-city Spree River as a natural resource. The activity was tested in an outdoor space with a river as natural urban resource, a meadow and an open air workshop space.

SUGGESTED SCENARIOS

This activity is ideally situated in a city but in walking distance of a calm, natural environment near a river or another public resource of nature (e.g. green space or lake). Access to not too crowded outdoor spaces for walking and reflection is needed as well. The setting should encourage mindfulness and sensory engagement, allowing participants to move slowly and attentively through the (urban) landscape. Spaces for small group interaction, such as grassy areas or spots with yoga mats, are needed for sharing and creative expression. The atmosphere should be relaxed and supportive to foster openness and connection between participants, their bodies, and the environment. Tables and chairs are recommended for the mental mapping part, but it can also be done sitting on the grass in a green space.

Description

Performative mapping is an artistic and research-based method where maps are not understood as static representations of space, but as open, process-oriented, and bodily experienced ways to engage with space, memory, relationships, and movement. Unlike traditional maps that depict geographic facts, performative mapping focuses on understanding space as lived, social, and often subjective.

Part 1

The activity started outside the museum with a short ice breaker and self-introduction on personal experiences with water.

Part 2

The performative walk along the Spree River was guided by Walmeri Ribeiro and began with a mindfulness exercise focusing on breath and sensory awareness of the environment. Participants paused at three spots to quietly observe the water, and creatively express their connection to the river and body. At the third stop, located at the Flussbad Berlin site, participants paired up on yoga mats to silently share their perceptions, memories, and thoughts - one lying down receiving, the other speaking - before switching roles. This practice deepened their connection to both body and place, fostering awareness of more-than-human presences.

Part 3

Franziska Bittner, an employee at Flussbad Berlin, introduced the citizen-led initiative to revive the Spree Canal as a clean, accessible, and multifunctional urban space. The project emphasizes sustainability, social inclusion, and participatory urban development. Participants discussed their needs, wishes, and attitudes toward resource use and resource justice regarding the Spree in the city.

Part 4

The last part was a mental mapping session: participants collectively mapped water-related places from past, present, and future, linking them to emotions and uses. The shared map was presented, fostering new perspectives for the sustainable and communal use of water within the urban society.

TIMING

- Part 1: Welcome and self-introduction (approx. 15 min.)
- Part 2: Performative Walk (approx. 60 min.)
- Part 3: Discussion about the river Spree (approx. 30 min.)
- Part 4: Mental Mapping (approx. 45 min.)

REFLECTION QUESTIONS FOR THE PARTICIPANTS

- How can we re-sensitize our bodies?
- How can we create ways of living (not just surviving), of imagining and dreaming, while living amidst various crises?
- How can we create a bodily engagement with the environment?
- How can this practice connect us with our places, countries, and memories, creating a bond with where we are living now?
- How does the health of the Spree River affect the well-being of both human and non-human communities in the city?
- What possibilities do we have as urban residents to ensure fair and sustainable access to natural resources like the river? What responsibilities can or should we demand from the city administration?
- In what ways can revitalizing the Spree River contribute to climate resilience and social inclusion within Berlin's urban environment?

Materials	Settings	Topics
<ul style="list-style-type: none">• A translator if necessary• Setting: a public space with a natural resource like a river. The activity can also be linked to any other natural resource, e.g. green spaces, a small forest or a lake• Yoga mats• Tables, chairs and/or benches, a big paper roll, Colored pencils, felt-tip pens or similar	No specific setting is required for this activity.	Environmental justice and resource use, embodied and sensory experience of the environment, importance and fragility of urban ecosystems in the context of climate change, creative expression as a way to connect with other people and the environment.



REFLECTION QUESTIONS FOR THE DESIGNER/FACILITATOR

How do you value participants' experience?

Participants' experiences were valued as the central source of meaning-making throughout the performative mapping process. Rather than transmitting predefined knowledge, facilitators invited participants to explore their own embodied relationship with water and the city.

Personal memories, sensory impressions, and emotional responses guided the activity — from the first introductions to the final mental mapping.

Each contribution, whether verbal or silent, was treated as a valid form of expression. The alternation between movement, observation, and shared reflection allowed participants to connect personal stories to broader environmental and social contexts. The walk thus became a collective exploration of belonging and awareness, where participants' lived experiences shaped the understanding of place and ecology.

Facilitator's learnings

- Value silence and bodily gestures as meaningful expressions.
- Create opportunities for participants to connect personal memories with shared ecological concerns.
- Encourage reflection on both individual and collective dimensions of environmental experience.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Dialogue was fostered through alternating moments of listening, movement, and discussion.

During the performative walk, the facilitators and participants engaged in non-verbal dialogue through shared sensory experience and mirroring gestures, creating a horizontal exchange rather than a hierarchical teaching moment.

The presence of the Flussbad Berlin representative transformed the second half of the activity into a civic conversation: participants' observations from the walk informed their questions about water access, urban ecology, and social justice. The expert responded not as a lecturer but as part of the dialogue, linking participants' reflections to real urban sustainability challenges. This flow between embodied exploration and verbal discussion helped bridge artistic practice and environmental action.

Facilitator's learnings

- Combine embodied and discursive dialogue to deepen engagement.
- Invite experts to join as co-learners, building on participants' lived observations.
- Use shared sensory experiences as a foundation for civic discussion.

FACILITATOR'S NOTES

- It makes it a lot easier for the process if all participants can speak at least a simple level of the same language and understand each other directly. If it needs translators it can lead to lose momentum of sharing and discussing things directly with each other or the persons sitting near each other
- This activity is not for everyone: the participants have to know exactly what the activity is about beforehand
- The activity has to be adopted to suit the needs of people with physical impairments or limited mobility (due to walking, standing, lying down)
- We began the activity right after the self-introduction round in front of the busy entrance to the Humboldt Forum, where many visitors passed by. However, the activity begins with an introspective focus on one's own sensations in the present moment and on what aspects of the environment one is currently perceiving: wind on the skin, sounds, etc. It is therefore advisable to begin the actual activity in a quieter, more sheltered, and less frequented location.

Appendix

When this activity is suitable

- Individuals interested in mindfulness, body awareness, and connecting with the environment, who are open to exploring inner experiences.
- Adults and young adults who want to reflect on their personal relationship with urban nature and water.
- Participants open to intercultural exchange and communal learning, as the method encourages sharing personal stories and perspectives.
- Groups open to sharing personal experiences and engaging in participatory, creative methods
- Participants from underserved communities who not feel at ease with public institutions yet: the outdoor, public setting lowers entry barriers to cultural spaces
- Intercultural or interdisciplinary groups exploring urban space, sustainability, or collective memory

When this activity is less suitable

- This activity is not appropriate in outdoor settings where there is a lot of noise or where there is no safe, comfortable space for closing your eyes, walking very slowly, stopping and resting.
- This activity may not be suitable for participants with a history of trauma or who are (currently) emotionally vulnerable, as its focus on bodily sensations and personal perception could potentially trigger traumatic memories or emotional distress. Research in trauma-informed practices emphasises the importance of careful guidance and support when engaging in activities that heighten somatic awareness, in order to ensure the safety and well-being of participants.
- Not suitable for very large groups: the intimate, reflective format requires manageable group sizes

Additional Resources

Instructions of the performative walk are to be found in the Annex 7:
"Instructions of the performative mapping"

18. From aztec Chinampas to urban hydroponics

Designed and tested by: Anja Steglich, Technische Universität Berlin, "Roof Water-Farm" (RWF) Ethnological Museum, Berlin, Germany

In brief

Duration	120 min
Number of participants	5-20
Number of facilitators	1-3 (translator optional, 1 Facilitators or educators with expertise in sustainable agriculture, environmental education, or urban farming, 1 guide for the specific hydroponic site)
Special materials	<ul style="list-style-type: none">Posters, diagrams, models of chinampas and hydroponic systemsAccess to the hydroponic system or similar setup for demonstration purposesIf possible: Hands-on component, like planting seeds or assembling a mini hydroponic unit
Objectives	<ul style="list-style-type: none">Understand the principles of sustainable and resilient agriculture through historical and modern examples.Recognize the importance of circular economy and biodiversity for climate protection and food security.Learn how traditional farming techniques, like Aztec chinampas, contribute to sustainable land use and resource conservation.Explore innovative urban farming methods, such as hydroponics, and their potential to recycle water and reduce environmental impact.Develop awareness of the connections between water cycles, agriculture, and urban infrastructure for building climate-resilient communities.Encourage practical thinking about applying sustainable practices in everyday life and local environments.
Tested with	Ukrainian refugees, 16 adults and 3 children

OVERVIEW

This event explores sustainable agriculture through historical and modern examples. It begins with a short input lecture on Aztec chinampas: ingenious floating gardens that demonstrate principles of circular farming, biodiversity, and climate resilience. It is followed by a guided tour of the Roof Water-Farm in Berlin, a real-world laboratory in the yard of an apartment building, where participants learn how urban hydroponic systems can recycle greywater for food production. The event highlights the connections between historic and traditional indigenous practices, and modern, innovative urban solutions for sustainable agriculture.

Context

This activity was conducted in collaboration with Anja Steglich, a landscape architect and transformation researcher at Technische Universität Berlin. She also co-initiated the real-world laboratory "Roof Water-Farm" (RWF), located in the inner courtyard of a residential block in Berlin-Kreuzberg. The educational activity connects the Aztecs' chinampas, a historic model of sustainable agriculture, with modern urban farming, demonstrating how low-tech historic and Indigenous knowledge can inspire modern climate-resilient solutions.

The RWF combines greywater treatment and hydroponic food production in a closed-loop system, serving as a model of blue-green infrastructure for sustainable urban development. By integrating rainwater management, CO₂ storage, and plant-based evaporation, it actively contributes to climate protection. The guided tour allows participants to explore these systems firsthand, bridging historical wisdom with practical urban applications.

Key themes include circular water use, climate adaptation, and the synergy between ancient and modern farming techniques, all demonstrated in a real-world setting within an innovative 1987 IBA (International Buil housing project).

SUGGESTED SCENARIOS

The event is best held in a combination of indoor and outdoor spaces, allowing for both theoretical input and practical demonstration. The indoor space should be accessible, quiet, and equipped with basic presentation tools (e.g. projector, seating, flipcharts). Ideally, it includes a workshop room for the initial presentation and group discussion on chinampas and sustainable agriculture. More important is access to an urban hydroponic farm, a rooftop garden, or demonstration site where participants can experience hydroponic systems in action. However, the indoor workshop room is not essential, as the presentation can also be held outdoors using physical visual materials, as successfully done in this tested activity. Optionally are also green areas, community gardens or a demonstration site where small hands-on activities can take place.

Description

Part 1: Historical Introduction and Brief Discussion about the Aztec Chinampas

The event begins with a historical introduction to the Aztecs, their former capital, Tenochtitlán (later rebuilt as Mexico City), and their chinampas – artificially constructed, highly productive islands located in Lake Texcoco. These islands were built using wooden frames, reeds, mud, and plant remains, creating a stable, fertile environment with permanent moisture.

Thanks to natural fertilization from the aquatic biodiversity present, chinampas could yield up to seven harvests annually. This section explores how chinampas serve as an exemplary model for resilient and resource-efficient agriculture. The first part also covers discussions on the principles of the circular economy, the importance of microbial soil life and how these are relevant to today's challenges concerning food security, biodiversity conservation and climate protection.

Part 2: Guided Tour of the Roof Water-Farm with Anja Steglich (Technische Universität Berlin)

The second part featured a guided tour of the Roof Water-Farm, led by Anja Steglich from TU Berlin. Anja Steglich walked the group through the greenhouse and retention basin of the Roof Water-Farm, providing commentary along the way. Participants observed a residential-scale hydroponic system in action which cleans greywater from households and repurposes it for plant growth. This innovative setup connects water cycles, urban agriculture and technical infrastructure in a sustainable way.

During the tour, discussions were held about the food safety of this circular system,

and the group reflected on how traditional agricultural principles, such as those used in chinampas, could be adapted for other modern urban contexts.

TIMING

- Welcome: Arrival and welcome, short introduction round and overview (10 minutes)
- Part 1: Historical Introduction and Brief Discussion about the Aztec Chinampas (approx. 20 minutes)
- Part 2: Guided tour through the greenhouse and the wetlands of the roof water farm and discussion (approx. 50 min.)
- Closing circle and farewell (approx. 5 min.)



Anja Steglich shows how chives are grown in a vertical part of the residential-scale hydroponic system on the Roof Water-Farm.

REFLECTION QUESTIONS FOR THE PARTICIPANTS

- What did you find most interesting about the Aztec chinampas and their farming methods?
- How can traditional farming techniques help us protect the environment today?
- In what ways do you think urban farming can improve our communities?
- How does recycling water in farming benefit the environment and us?
- What changes could you make in your daily life to support sustainable agriculture?
- How do you see the connection between the food we eat and climate change?
- What challenges might you face when trying to use these ideas at home or in your neighborhood?

Materials	Settings	Topics
<ul style="list-style-type: none"> Physical presentation materials explaining chinampas and circular agriculture on site Visual learning tools (e.g. posters, diagrams, models of chinampas and hydroponic systems) Printed handouts or visual aids in plain language for low-literacy participants Access to the hydroponic system or similar setup for demonstration purposes Weather-appropriate clothing or protection if parts of the event are outdoors If possible: Hands-on component, like planting seeds or assembling a mini hydroponic unit Snacks from the hydroponic farm like tomatoes or herbs Follow-up materials or simple guides for participants to take home 	<p>No specific setting is required for this activity</p>	<p>Basics of sustainable farming and natural resource use, how traditional agriculture supports climate resilience, importance of biodiversity for healthy ecosystems, water saving and recycling methods in urban farming, practical examples of growing food sustainably in cities, understanding the link between food, environment, and climate, inspiration on how to apply sustainable practices in everyday life.</p>

REFLECTION QUESTIONS FOR THE DESIGNER/FACILITATOR

How do you value participants' experience?

This activity fosters two-way dialogue by grounding discussions in tangible, historical, and contemporary examples, such as the Aztec chinampas and the Roof Water-Farm, that invite participants to connect past and present practices. The historical introduction encourages questions and reflections by linking ancient agricultural principles to modern challenges like food security and climate protection. During the guided tour, the facilitator, Anja Steglich, engages participants in observation-based discussions about water cycles, food safety, and urban agriculture, creating space for both expert insights and participant perspectives. By comparing traditional and modern systems, the activity bridges knowledge gaps and ensures that participants, facilitators, and experts co-create meaning through shared exploration.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Participants' experiences are centered by starting with a relatable historical narrative, the chinampas, that highlights human ingenuity and invites personal connections to sustainability. The interactive tour of the Roof Water-Farm further validates their perspectives by encouraging hands-on observation and discussion, ensuring their questions and reflections shape the conversation. By linking traditional knowledge to modern innovations, the activity positions participants as active contributors to solving contemporary challenges, rather than passive recipients of information. Their insights are integrated into the dialogue, reinforcing the relevance of their lived experiences and ideas for sustainable urban practices.

Appendix

When this activity is suitable

- Suitable for not too big, depending on the specific site and possibilities to move around and interact there
- Rather suitable for adult groups but also interesting for slightly older children
- Works well when there's enough time for immersion, dialogue, and personal engagement

When this activity is less suitable

- Not suitable for people with physical disabilities limiting fine motor skills
- Alternatively: Support staff or assistants to help with group guidance, especially for participants with special needs
- Not interesting for very young children since there is limited possibilities for hands-on activities
- Not suitable for participants with severe allergies to certain plants or herbs
- Not suitable for groups with very limited time, as the workshop requires focused engagement

Additional Resources

Visit the [Roof Water-Farm website](#) to learn more about how it operates as a real-world laboratory within the inner courtyard of a residential block.

19. Reclaiming the ocean: Māori cosmology, art and upcycling

Designed and tested by: Ethnological Museum, Berlin, Germany

In brief

Duration	120 min
Number of participants	5-20
Number of facilitators	1-3 (translator optional, 1 Facilitators or educators with expertise in sustainable agriculture, environmental education, or urban farming, 1 guide for the specific hydroponic site (possibly the same person))
Special materials	<ul style="list-style-type: none">• Clean, empty plastic bottles• Optional: Additional plastic waste materials• Scissors, cutters• String, wire, tape, and other fastening materials• Optional: Hot glue guns or strong craft glue• Optional: Decorative materials: colored foil, markers, paint, tissue paper, etc.
Objectives	<ul style="list-style-type: none">• Learn about Indigenous perspectives on nature, the ocean, and the environment through the work of Māori artist George Nuku.• Understand how art can address urgent global issues such as plastic pollution and climate change.• Explore the role of mythology and storytelling in shaping environmental awareness.
Tested with	9 Ukrainian refugee women and 6 children

OVERVIEW

This activity combines a dialogical exhibition tour with a hands-on creative workshop. Participants explored George Nuku's artistic interventions in the *Manatunga* exhibition, which address plastic pollution, the sacredness of nature, and Indigenous relationships with the ocean. Afterwards, they took part in an upcycling workshop. Using discarded plastic bottles, they create fish sculptures, transforming waste into symbolic marine life. This process encourages reflection on environmental responsibility, consumer culture, and the role of art in envisioning alternative futures.

Context

The Ethnological Museum has conducted activities outside its traditional walls to engage target audiences in their neighborhoods and in more accessible public green spaces for those with limited prior contact with the museum. This approach aims to break down the hierarchical space of the institution, bringing its programs into the public sphere and making the museum's environmental and ethnological topics more inclusive. Additionally, the educational program also seeks to lower barriers to engagement, inviting underserved communities into the museum. Through this activity, a guided dialogical tour, combined with an upcycling workshop,

the museum wants to create a welcoming atmosphere, encouraging participants with little museum experience to engage with its environmental ethnological topics, including climate change, and share their own perspectives.

The activity is inspired by the Manatunga intervention by Māori artist George Nuku, on display at the Ethnologisches Museum since May 2025. George Tamihana Nuku is one of the most important contemporary Māori artists. With his intervention at the Ethnologisches Museum, Nuku combines historical objects with his own Plexiglas sculptures to reflect on the relationship between humans, nature, and culture, addressing both ancient myths and contemporary issues such as climate change.

Nuku's work serves as a starting point for discussions on human-environment relationships and climate change, presented through a visually engaging artistic lens. His large-scale installations combine historical objects from the museum's collection with his own Plexiglas sculptures, bridging the gap between past and present. By exploring the connection between art, spirituality, and the environment, Nuku invites reflection on our responsibility for the future. Artistic approaches, such as Nuku's, are crucial in communicating complex issues such as climate change, offering accessible and emotionally impactful ways to engage wider audiences in vital discussions.

SUGGESTED SCENARIOS

The activity takes place in two separate spaces: An Exhibition space, a quiet gallery or museum space suitable for a guided tour, allowing participants to engage with the artworks and exhibition content without major disturbances. A Workshop room: A well-lit, ventilated room equipped with tables, chairs, and access to electricity. The space should be suitable for creative, hands-on activities and allow for safe use of tools and materials. Both spaces should be easily accessible and located close to one another to ensure a smooth transition between the tour and the workshop.

Description

Part 1: Welcome and Self Introduction

Before the activity began, participants were welcomed, given a brief overview of the program, and invited to share a short reflection on their personal experiences or emotions related to water.

Part 2: Guided Museum Tour with Reflection and Discussion

The combined activity begins with a guided tour of the Manatunga exhibition by renowned Māori artist George Tamihana Nuku. His work intertwines traditional Māori materials and mythology with contemporary issues such as plastic pollution and climate change. Participants explore large-scale installations that connect past and present by merging historical objects from the Ethnological Museum's collection with modern sculptures made from Plexiglas.

A highlight is the transparent waka (traditional canoe) installation, depicting the mythological figure Maui fishing plastic waste from the ocean.

Part 3: Upcycling Workshop

Following the tour, participants engage in a hands-on upcycling workshop. Beforehand, they are encouraged to bring old plastic bottles, the museum staff collected additional bottles beforehand. In the workshop, participants creatively transform these discarded materials into artistic representations of marine creatures such as jellyfish and fish. This process encourages reflection on plastic pollution, sustainability, and Indigenous perspectives on the relationship between humans and nature. Through this artistic intervention, waste is reimagined as a source of creativity and meaning, fostering ecological awareness and personal responsibility.

Part 4: Presentation of underwater creatures and wrap up

At the end of the activity, the group took their upcycled underwater creatures to the exhibition space, where George Nuku's underwater installation is displayed. Each participant presented their creature to the group and shared a short story about it. To conclude, we took a group photo with all the participants and their creations, which was later shared in the Ukrainian Community's Telegram group.

TIMING

- Part 1: Welcome and Self Introduction (approx. 10 min.)
- Part 2: Guided dialogical tour with Reflection and Discussion (approx. 40 min.)
- Part 3: Upcycling Workshop and Discussion (approx. 55 min.):
- Part 4: Presentation of underwater creatures and wrap up ((approx. 15 min.)



REFLECTION QUESTIONS FOR THE PARTICIPANTS

- What message do you think George Nuku wants to convey with his interventions?
- How did the combination of traditional stories and modern materials affect your view on plastic and pollution?
- Can art change the way we think about environmental issues? Why or why not?
- What parallels or differences do you see between environmental problems in Oceania and Europe?
- How did it feel to turn plastic waste into something creative?
- What does the process of upcycling teach us about value and transformation?
- Which part of the activity made you think differently about your own relationship with nature?
- What small actions could you take in your daily life to reduce plastic waste?
- How can museums support environmental awareness and cultural dialogue?

Materials	Settings	Topics
<ul style="list-style-type: none"> · A quiet and spacious room or exhibition area for the guided tour · A separate workshop space with tables, chairs, and enough room for crafting Bean bags · Clean, empty plastic bottles (brought by participants and collected in advance) · Optional: Additional plastic waste materials (e.g. caps, packaging, bubble wrap, etc.) · Scissors, cutters (child-safe if needed), a cordless drill (for drilling holes in plastic bottles, if needed) · String, wire, tape, and other fastening materials · Optional: Hot glue guns or strong craft glue (works also without) · Optional: Decorative materials: colored foil, markers, paint, tissue paper, etc. 	<p>No specific setting is required for this activity.</p>	<p>Māori worldview and ocean connection, plastic pollution and marine ecosystems, mythology and environmental storytelling, indigenous contemporary art, upcycling and sustainability, relations of colonial history and climate justice, Oceania – Europe environmental comparisons.</p>

REFLECTION QUESTIONS FOR THE DESIGNER/FACILITATOR

How do you value participants' experience?

This activity fosters two-way dialogue by creating spaces for shared exploration and co-creation. It begins with participants sharing personal reflections on water, establishing a foundation of trust and mutual curiosity. During the guided tour of George Nuku's exhibition, the facilitator encourages open discussion by linking Māori mythology and contemporary issues like plastic pollution, inviting participants to connect their own perspectives with the artist's work. The upcycling workshop deepens this exchange, as participants and facilitators collaborate hands-on, transforming waste into art while discussing sustainability and Indigenous worldviews. Finally, the presentation of upcycled creatures allows participants to share stories and respond to one another, ensuring that expertise and personal insights flow freely in both directions.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Participants' experiences are centered and valued throughout the activity. The opening reflection on water validates their personal connections to the topic, while the upcycling workshop empowers them to express their ideas creatively. By transforming plastic waste into meaningful art, participants become active contributors rather than passive learners. Their creations and stories are showcased in the final presentation, and the group photo – shared in the community's Telegram group – publicly acknowledges their contributions. This approach ensures that their emotions, cultural backgrounds, and creativity are not just included but essential to the collective experience.

FACILITATOR'S NOTES

- Many Ukrainian women have come to Germany with their children but without their husbands. To address them, this event responded to the different interests of mothers and children: the guided tour was designed in such a way that the content was interesting and relevant for both age groups. Through the dialogical approach and the discussion, personal interests and connections could also be integrated into everyday life.
- The upcycling workshop was aimed at the children. However, the jellyfish and fish made from bottles had previously been staged during the tour as an intervention by George Nuku in a museum showcase on the underwater world of Oceania. This appreciation of the upcycled

objects also strengthened the adults' interest in discovering how sea creatures can be created. Thus, most of the mothers were also interested in crafting their own sea creatures.

Appendix

When this activity is suitable

- Ideal when the target group is parents with children
- If the workshop is targeted exclusively at adults, a more focused approach is necessary: adults need to have a clearer understanding of the purpose behind the upcycling activity. Unlike mothers and children, who often take their crafted fish and sea creatures home as a memento of a shared afternoon, adults are less likely to want to keep these items. Therefore, the workshop could be designed more as a social event with the goal of creating pieces that will be exhibited afterwards.

When this activity is less suitable

- Not suitable for people with physical disabilities limiting fine motor skills
- Not suitable for very young children who lack the necessary motor abilities
- Not suitable for participants with severe allergies or sensitivities to plastics or art materials
- Not suitable for groups with very limited time, as the workshop requires focused, hands-on engagement
- Not suitable for settings without adequate space or materials for creative work

Additional resources

- More information on the Intervention of George Nuku in Ethnologisches Museum on the website: [Manatunga – Artistic Interventions by George Nuku](#)

20. Indigenous knowledge for sustainable futures

Designed and tested by: Ethnological Museum, Berlin, Germany

In brief

Duration	135 min
Number of participants	6-15
Number of facilitators	1-3 (1 translator, if needed, 1 expert or educator on climate/environmental topics, 1 expert in theatre formats and collaborative storytelling (note: depending on the team's experience, one person may cover multiple roles.)
Special materials	<ul style="list-style-type: none">• Clean, empty plastic bottles• Optional: Additional plastic waste materials• Scissors, cutters• String, wire, tape, and other fastening materials• Optional: Hot glue guns or strong craft glue• Optional: Decorative materials: colored foil, markers, paint, tissue paper, etc.
Objectives	<ul style="list-style-type: none">• Fostering an understanding of indigenous worldviews and their spiritual relationships with nature• Strengthening awareness of the ongoing relevance and resilience of indigenous traditions.• Exploring cultural diversity in ecological knowledge and sustainable living practices• Encouraging critical reflection on our own relationship with the natural world and about resource justice• Supporting creative expression and exchange of perspectives through body, voice, and storytelling.• Promoting empathy, collaboration, and imaginative thinking in envisioning alternative futures.
Tested with	<ul style="list-style-type: none">• 9 Ukrainian women and 2 children• 3 Ukrainian women, 2 children

OVERVIEW

During the tour at the Ethnological Museum, participants explored how indigenous cultures of the Americas perceive nature as sacred and alive. They learned about the spiritual relationships with forests, rivers, and animals among First Nations in Canada, the Aztecs' nature deities and floating gardens, and Amazonian beliefs in transformation and balance with the environment. In the theatre workshop, the group reflected on their own relationship with nature through movement, voice, and storytelling. Participants collaboratively created a story imagining a future of coexistence between humans and nature.

Context

The Ethnological Museum has conducted activities outside its traditional walls to engage target audiences in their neighborhoods and in more accessible public green spaces for those with limited prior contact with the museum. This approach aims to break down the hierarchical space of the institution, bringing its programs into the public sphere and making the museum's environmental and ethnological topics more inclusive. Additionally, the educational program also seeks to lower barriers to engagement, inviting underserved communities into the museum. Through this activity, a guided dialogical tour, combined with a theatre workshop, the museum wants to create a welcoming atmosphere, encouraging participants with little museum experience to engage with its environmental ethnological topics, including climate change, and share their own perspectives in an open discussion as well as through artistic expression and storytelling.

The activity provides a broad overview of environmental ethnology topics in the Ethnological Museum's exhibition, with a focus on historical and contemporary human-environment relationships in Indigenous societies of North and Central America and how these relationships are expressed artistically and culturally. Following the tour, participants engage in a theatre-based format and a future storytelling exercise, allowing them to connect with the content and express their own visions of human-environment relationships in creative ways. Artistic approaches, such as the theatre exercise or the future storytelling element, are crucial in communicating complex issues such as climate change, offering accessible and emotionally impactful ways to engage wider audiences in vital discussions.

SUGGESTED SCENARIOS

For the second part an (exhibition) space is suggested with visual material of choice, presenting a climate- or environment-related topic. For the third to sixth part a (semi-) private room or a quiet corner with low to none visitor traffic will be appropriate. Sufficient open floor space is important for the physical theatre component, and flexible seating (e.g. bean bags or floor cushions) helps to create a relaxed and informal atmosphere.

Description

This activity consisted of three interconnected parts that combined museum education, cultural learning, and creative expression to explore human relationships with nature through the lens of Indigenous cultures of the Americas.

Part 1: Welcome and Self Introduction

Before the activity began, participants were welcomed, given a brief overview of the program, and invited to share a short reflection on their personal experiences or emotions related to nature.

Part 2: Guided Museum Tour

The program began with a guided tour at the Ethnological Museum, focusing on the diverse ways in which Indigenous communities from North, Central, and South America understand and relate to nature. Participants learned that nature is often seen as a living, sacred force: forests, rivers, and animals are considered spiritual relatives. We explored the worldview of the First Nations of Canada, who hold the cedar tree as a symbol of strength and protection, and use it to build canoes, houses, and ritual objects. Aztec culture, on the other hand, views nature as closely linked to gods like the Sun, Rain, Earth, and Maize. We discussed Aztec creation myths and their "floating gardens" (chinampas), which reflect a sustainable way of farming. To connect these traditional practices to present-day ecological approaches, we also looked at contemporary urban farming methods and referred to the Roof Water-Farm project by TU Berlin, where hydroponic systems

are used to recycle water and grow food in urban settings. In Amazonian cultures, humans are seen as one being among many in a shared spiritual world. Through masks, totem poles, and other artifacts, participants encountered examples of how these cultures express ecological knowledge and spiritual beliefs.

Part 3: Reflection and Discussion

After the tour, we created space for reflection and exchange. Through guided discussion, participants were encouraged to draw connections between Indigenous perspectives and their own experiences with nature. What values or practices resonate with us today? What can we learn from these worldviews? How do Western society and economy relate to nature? These questions helped deepen participants' awareness of different ecological approaches and initiated a personal reflection on our responsibilities toward the environment.

Part 4: Theatre Workshop

In the theatre workshop, participants engaged in physical exercises and improvisations to explore their personal relationship with nature. Using body language and group interaction, they expressed emotions and ideas about how humans relate to the natural world.

This process encouraged awareness of individual and collective connections to the environment through movement and embodiment.

For workshop details see the Annex 5: SPK Theatre Workshop

Part 5: Collaborative Future Storytelling

Building on the theatre exercises, participants collectively created a story: each participant contributed a short sequence imagining a future where humans, animals and nature coexist in balance. These personal visions were woven into a shared narrative, with each person building on the ideas of the previous speaker. This creative process allowed participants to use not only their voices and bodies but also their imagination, fostering creativity and empathy as well as a collective vision of hope, respect, and interconnectedness.

Part 6: Feedback and Wrap up

The activity concluded with a brief feedback round, where participants shared how they felt during the different parts of the activity and offered suggestions for improvement based on their personal perspectives and needs.

TIMING

- Part 1: Welcome and self-introduction (approx. 10 min.)
- Part 2: Guided dialogical tour (approx. 50 min.)
- Part 3: Reflection and Discussion (approx. 15 min.)
- Part 4: Theatre Workshop (approx. 50 min.):
- Part 5: Collaborative Future Storytelling (approx. 15 min.)
- Part 6: Feedback and wrap up (approx. 10 min.)



REFLECTION QUESTIONS FOR THE PARTICIPANTS

- Which values or practices from Indigenous perspectives resonate with you the most?
- What can we learn today from these worldviews about how to relate to nature?
- How do you personally perceive your relationship with nature?
- In what ways does the Western view of nature differ from the Indigenous perspectives presented?
- How do economic systems and modern societies influence our relationship with the environment?
- What role could animals, plants, or other non-human beings play in our daily lives?
- How can we live in harmony with nature? Which challenges can you think of from your personal perspective?
- What changes do you wish to see in the future regarding our interaction with the environment?
- How can you act more responsibly in your daily life toward the environment? What efforts can you expect from different parts of society, such as politics, the economy, or wealthier social groups?
- What significance do rituals, art, or stories have for understanding nature?
- What might a shared future look like where humans and nature coexist in balance?

Materials	Settings	Topics
<ul style="list-style-type: none"> Exhibition space with objects, photographs, images or other visual material related to the topic of the guided tour. Bean bags, floor cushions or other soft seating help create a cozy and personal atmosphere to reduce possible inhibitions during the discussion and theatre exercises. But chairs will work, too. 	<p>No specific setting is required for this activity.</p>	<p>Indigenous worldviews on nature as sacred and alive, Spiritual relationships with forests, rivers, animals, and plants, more than human approaches, Sustainable and traditional practices and their contemporary connections, Reflection on personal and societal relationships with nature, Exploration of ecological responsibility and environmental ethics, Creative expression through body movement and theatre, Collaborative storytelling envisioning future human–nature coexistence.</p>



REFLECTION QUESTIONS FOR THE DESIGNER/FACILITATOR

How do you value participants' experience?

This activity fosters two-way dialogue by integrating interactive exploration, personal reflection, and creative co-creation. The guided tour encourages participants to ask questions and share observations as they engage with Indigenous perspectives on nature. Facilitators act as bridges, connecting historical knowledge to contemporary issues and inviting participants to relate artifacts and myths to their own lives. The reflection discussion deepens exchange by posing open-ended questions (e.g., "What resonates with you today?"), while the theatre workshop and storytelling transform dialogue into embodied and collaborative expression. Experts' insights blend with participants' voices as they build a shared narrative, ensuring that knowledge flows in all directions: from cultural traditions to personal experiences and future visions.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Participants' experiences are centred at every stage. The activity begins by honouring their personal connections to nature, validating diverse emotions and backgrounds. During the tour and discussion, their questions and reflections shape the conversation, while the theatre and storytelling exercises empower them to articulate their relationships with the environment through movement, voice, and imagination. The collaborative future story elevates their ideas into a collective vision, and the feedback round ensures their needs guide improvements. By weaving Indigenous wisdom with participants' unique perspectives, the activity positions them as active contributors, not just learners, but as co-creators of meaning and ecological awareness.

FACILITATOR'S NOTES

- When working with a mixed group of adults and children, it can be challenging to balance the depth of the topics in a way that keeps both groups equally engaged. While the adults later expressed a desire for more in-depth content, the children wished for a greater focus on interactive elements, especially the theatre segment.
- On the other hand, the mix of adults and children also helped some adults overcome their initial hesitation or reservations about the theatre exercises, as they were inspired by the children's spontaneity, impulsiveness, and joy
- The theatre exercise would benefit from more time, as it allows for a deeper engagement with the topics through this creative approach.

Appendix

When this activity is suitable

- Ideal in contexts that link ecology with cultural heritage, such as museum education, intercultural learning, or global citizenship programs
- Working with diverse, international groups: Especially effective when participants come from different cultural backgrounds and can compare experiences (e.g., migrants, exchange students, intercultural youth groups)
- When participants benefit from non-verbal, sensory methods like theatre performance
- When addressing cultural identity and diversity helps build trust and relevance
- When the group includes people with refugee or migration backgrounds who can relate to cultural perspectives on animals and nature, finding connection and belonging through them.

When this activity is less suitable

- When participants have very limited attention span or high stress levels that make engagement in detailed activities difficult
- When participants lack basic language skills and no interpretation or multilingual support is available, making communication too challenging
- When the setting is very large or if one plans for a big group there is limiting time and space for personal sharing and theater practice
- When the participants have physical or sensory impairments that cannot be accommodated
- When the workshop's focus doesn't resonate with the group's interests.

Additional Resources

TIM Toolkit. A practical guide output of the Theatre in Mathematics project produced by SCT Centre, describing in detail many theatre exercise, part of the TIM methodology.

<https://old.theatreinmath.eu/outputs/tim-methodology>

21. Giving voice to climate: participants as science communicators

Designed and tested by: Universcience and Traces, Paris, France

In brief

Duration	6 sessions of 2 hours each
Number of participants	10-15
Number of facilitators	2-4
Special materials	<ul style="list-style-type: none">Posters with diverse mediation activitiesCards with pictures or illustrationsData from press and scientific articles on plastic pollution and food (with diverse perspectives and reliable sources)Final flip postersTapLarge paper sheetsColoured stickers
Objectives	<ul style="list-style-type: none">To learn key facts about climate change through the knowledge of fellow inmates, resources, and discussions with a researcherTo become an active participant in addressing these issues by creating educational content on climate changeTo create new forms of relationships and connections to learning in a highly desocialized environment
Tested with	Prisoners (between 10 and 15 participants per session)

OVERVIEW

This activity invites participants to become science communicators, exploring climate and environmental issues through dialogue and creation. After expressing their own knowledge and meet a researcher who answers their questions, participants design an educational tool - such as posters, debates, or interactive panels - to share their understanding with others.

Context

The activity was tested in a prison environment with inmates participating voluntarily.

The group was composed of people with varying knowledge levels and interests.

The sessions took place in a small, secure room with limited materials and no internet access.

SUGGESTED SCENARIOS

This activity is particularly suitable for groups with limited access to scientific debate or for participants who may not usually see themselves represented in educational or cultural spaces. Small groups (8–15 participants) ensure that everyone can contribute, whether through research, discussion, or practical tasks such as designing and presenting their materials.

This makes the format particularly valuable for projects aiming to strengthen critical thinking, self-expression, and public engagement with environmental questions.

Description

The process combines dialogue, and prototyping: participants exchange views, interact with a researcher, and create a tool to share their understanding of climate issues.

The workshop takes place over six sessions of around two hours each, alternating between dialogue, reflection, and creation

Session 1 – Exploring perceptions

Participants share what they know and think about climate change through a facilitated discussion and playful activities. The group identifies common themes and questions to explore further.

Session 2 – Dialogue with a researcher

A researcher joins the group to answer participants' pre-recorded questions. The exchange is designed as a conversation rather than a lecture, allowing participants to challenge, react, and deepen their understanding.

Sessions 3 to 5 – Prototyping an educational format for the final session

Working in small groups, participants choose a topic related to climate issues.

Then they decide which questions they want to raise about this topic and how to share this knowledge (e.g., poster, interactive panel, debate game) to others. Facilitators support them in both substance (content and documentations) and form (format, visual elements).

TIMING

Session 1 – Exploring Representations of Climate Change (2 hours total)

15 min	Introduction Facilitators welcome participants, introduce themselves, explain the session's goals and outline the programme.
20 min	Mind Mapping on Climate Change Participants write key words on sticky notes to create a shared map of concepts, emotions, and experiences related to climate change. Similar ideas are grouped together.
30 min	Corporeal sociometry In subgroups, participants imagine the world in 50 years. Facilitators help define concrete and understandable scenarios. <ul style="list-style-type: none">• 10 min Global perspective: "What will the world look like in 50 years?"• 10 min Personal perspective: "What will our lives be like?"• 10 min Plenary: groups share their visions; facilitators acknowledge emotions that may emerge (hope, anger, helplessness, etc.).
15 min	Extreme Weather Events Participants co-create a mind map of extreme climate events and classify them by likelihood, severity, and level of concern. (Topic linked to the researcher's expertise in Session 2.) Note: this topic was chosen according to the expertise field of the researcher coming in Session 2.

10 min

Preparing Questions for the Researcher

Participants write questions to ask the researcher next time.
Facilitators collect and organise them by theme.

Facilitators' homework: organise questions thematically and brief the researcher on the group's dynamics and interests.

Session 2 – Meeting the Researcher (90 minutes)

10 min	Introduction Welcome and name tags.
15 min	Icebreaker Participants (including the researcher) each select an image representing research work and explain their choice.
40 min	Researcher Presentation The researcher answers the questions collected in Session 1, focusing on extreme weather events.
15 min	Projection for the Future Small groups select an image representing solutions to climate change, discuss, and present briefly to the group. Depending on the audience, adapt the projection to how far they can imagine solutions for the future.
15 min	Conclusion Informal conversation with the researcher and presentation of possible formats for the next session (debate, workshop, exhibition, etc.).



Session 3 – Choosing Educational Formats for the final session (90 minutes)

In this session participants choose:

- How to share knowledge
- The topic to present
- The questions about climate
- The format used to discuss with other fellow inmates who will be their audience.

15 min	Introduction and Evaluation Participants vote with coloured confetti on statements such as 'I understand better researchers' work' to evaluate the previous session.
10 min	Feedback Discussion Participants share what they learned from the researcher's visit.
70 min	Choosing Topics and Formats Facilitators present possible formats (game, debate, role play, exhibition). Participants brainstorm, form subgroups, and complete a planning sheet.

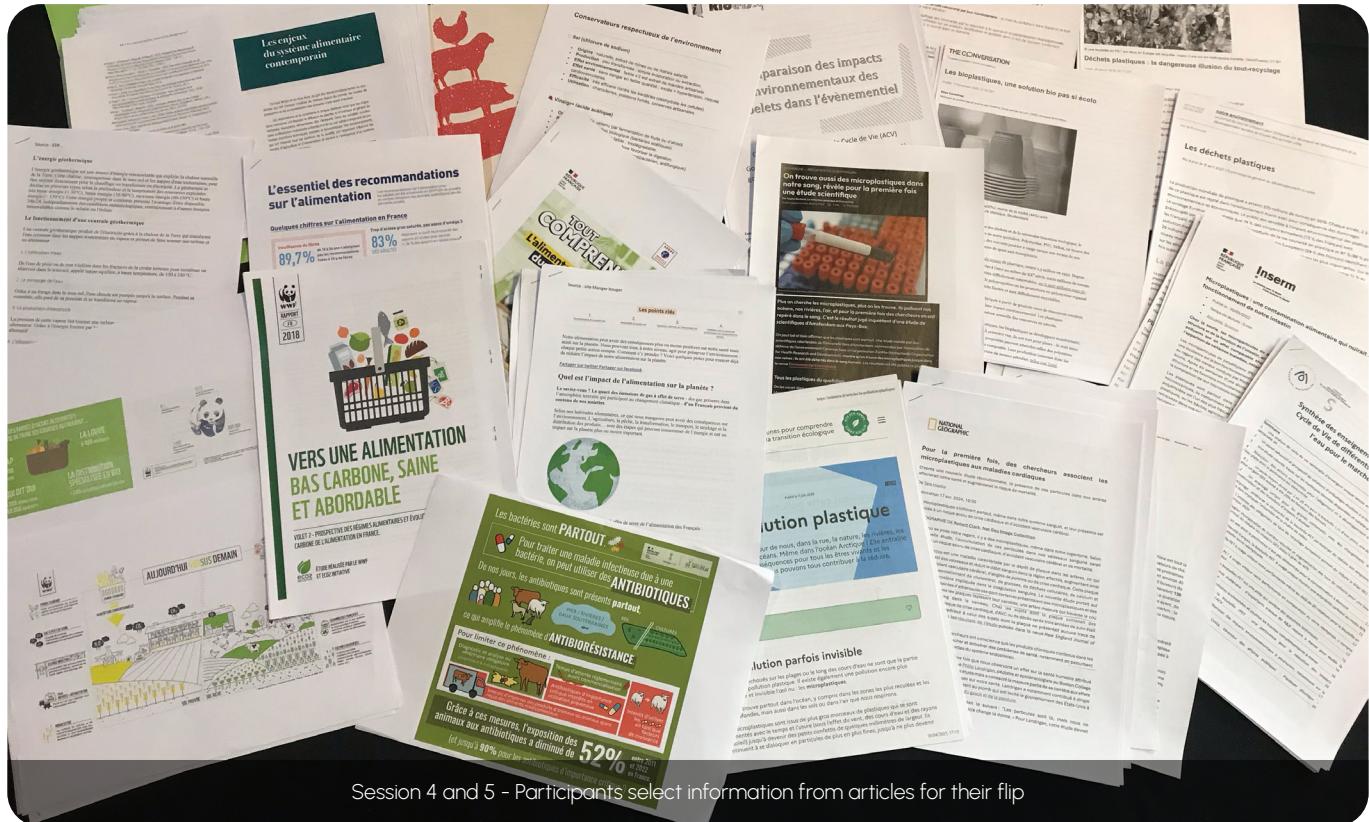
Session 4 – Co-Creation and Prototyping (Approx. 80 minutes)

10 min	Introduction & Recap Facilitators remind participants of the topics chosen in the previous session (e.g. plastic waste, industrial food). The concept of prototyping is introduced, emphasizing the goal of producing a first version of the educational format.
20 min	Presentation of Facilitation Formats Facilitators show examples such as: Flip posters (question front / answer back), Object classification, True/False cards, Moving debate, and Confetti-vote activity.
5 min	Group Formation Participants regroup according to their chosen topic or preferred format.
45 min	Prototype Creation Each group designs a first prototype, defining a key question and materials. Facilitators assist in identifying documentation needs for the next step.
	Facilitators' homework Between Sessions 4 and 5: gather supporting documentation (scientific articles, infographics, press excerpts) that will help participants deepen their topics. Note: in the prison context, access to printed or online materials is limited.

In the context of a prison participants don't freely have access to press articles printed or online.

Facilitators' homework

After sessions 3 and 4, facilitators collect documentation (2 pages max - science and press article, book, infographic...) to support each subgroup in the chosen thematic.

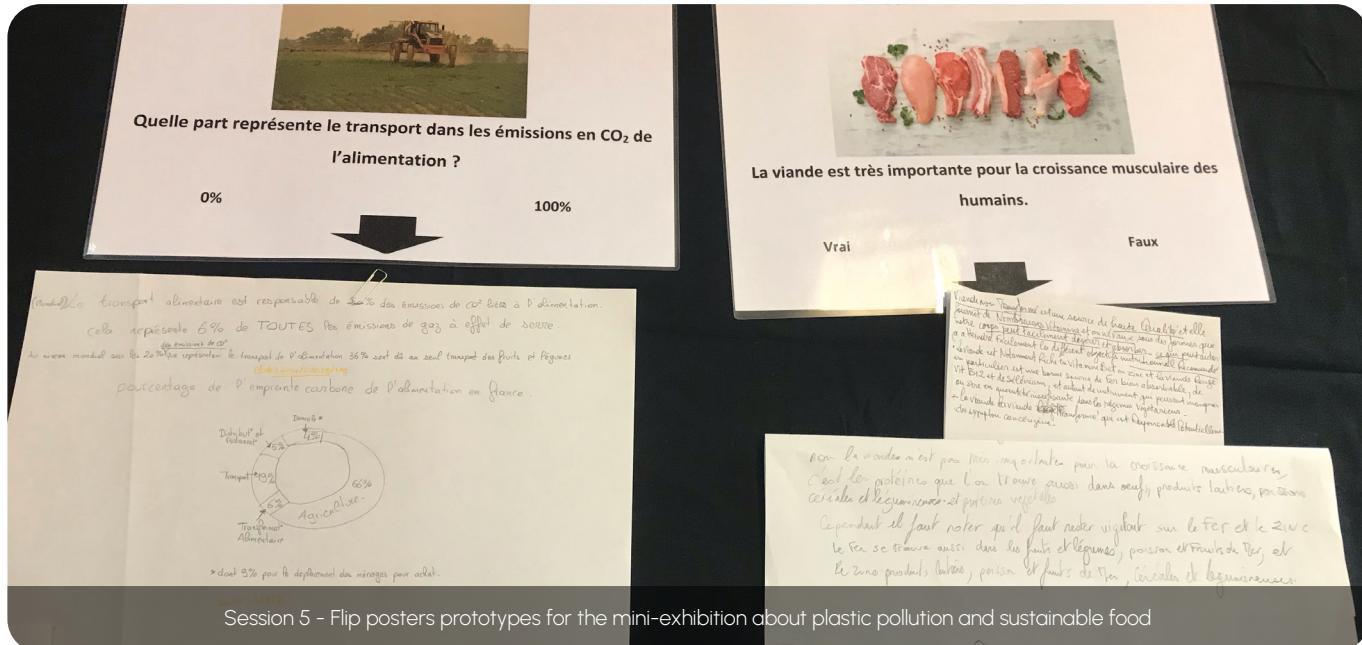


Session 4 and 5 - Participants select information from articles for their flip

Session 5 – Research and testing (Approx. 90 minutes)

Aim of this session: produce a prototype ready to test at the end of session 5.

10 min	<h3>Introduction & Recap</h3> <p>Facilitators recall prototypes created in Session 4 and restate the aim: refine and test them before the final presentation.</p>
10 min	<h3>Prototype Presentation</h3> <p>Facilitators show an example of a facilitation format (e.g. flip poster: question on front, explanation on back).</p>
5 min	<h3>Group Formation</h3> <p>Participants split into subgroups according to their topic of interest. Facilitators distribute collected documentation.</p>
45 min	<h3>Prototype Refinement</h3> <p>Subgroups read the selected materials and decide what information to include. Participants write or draw the explanatory part of their poster, adding possible interactive elements.</p>
35 min	<h3>Prototype Test</h3> <p>Groups present their posters to each other, simulate facilitation, and gather feedback for refinement.</p>
	<h3>Facilitators' homework</h3> <p>Between Sessions 5 and 6: prepare final printed versions of all flip posters for public presentation.</p>



Session 6 – Final Presentation (Approx. 60 minutes)

10 min	Welcome and Setup Participants and guests gather around a shared snack. Posters are displayed in the room.
10 min	Presentation and Discussion Each group presents its final flip poster. Visitors place coloured stickers to express opinions. Participants lead short discussions and respond to questions.
5 min	Closure Collective appreciation and reflection. Facilitators summarise the process – from learning to communicating. Posters remain exhibited as a visible outcome of the project.

Microplastiques et santé



De plus en plus de personnes sont-elles contaminées par le plastique ?

Oui On ne sait pas Non

↓

Les micro et nanoparticules de plastique pénètrent dans l'organisme via l'eau, l'air et la nourriture.

Nouveaux plastiques



Le plastique biodégradable, est-il une alternative aux bouteilles ?

Je vote pour ! Pas du tout !

↓

Le "Oui" est en fait un "Oui, mais".

Session 6 - Final production: flip posters about plastic pollution, created by prisoners
Ca paraît une solution acceptable. Cependant, si l'on

Materials	Settings	Topics
<ul style="list-style-type: none"> • Sticky notes • Posters with diverse mediation activities • Cards with pictures or illustrations • "Cotillons" for voting • Data from press and scientific articles on plastic pollution and food (with diverse perspectives and reliable sources) • Final flip posters • Tape • Sticky tack (Blu-Tack) • Paper name tags • Pens • Large paper sheets • Coloured stickers 	<ul style="list-style-type: none"> • Tables, chairs, whiteboard. • The room should be flexible, allowing smooth transitions between plenary work and smaller subgroups, which happens in almost every session. 	Climate change, environmental issues. The topic depends on participants' interests. In the project, they decided for: plastic pollution and sustainable alimentation.

REFLECTION QUESTIONS FOR THE DESIGNER/FACILITATOR

How do you value participants' experience?

Participants' experiences were valued through multiple forms of interaction — questions, debates, exploration, and creative production — across the six sessions. Mind-mapping activities were the main way to collect and visualize participants' thoughts on climate change and related themes. This visual format sparked discussions and made abstract ideas tangible.

For example, participants were asked to respond to questions such as:

- What does climate change mean to you?
- Can you give an example of an extreme climate event?

When exploring extreme weather events, participants used a graph with two axes ("gravity" and "occurrence") to evaluate how seriously they perceived different events.

Due to the prison context, participants could not discuss their personal histories, which limited how deeply previous experiences could be shared. However, as trust developed, some participants began expressing more personal knowledge or reflections. Their voice and their personal experiences were also valued during the expression of possible future scenarios and solutions for climate change. They were also free to add personal knowledge for the explanation of flip posters, if they wanted to.

Facilitators learnings:

- Use visual and participatory tools (like mind maps and ranking graphs) to make abstract or complex topics accessible.
- Encourage gradual sharing by building trust and adapting to participants' comfort levels.
- Accept that not all participants will contribute equally — and that observation is also a valid form of participation.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Facilitator-expert collaboration

Two preparatory meetings were held with the researcher to present the project and co-design the session. The researcher received participants' questions in advance and selected which to answer according to its expertise field.

The researcher also contributed ideas - for instance, using cards to collect representation of researcher's work - and shared its concerns about engaging with this audience. Having an existing relationship with the expert and familiarity with the communication style made this collaboration smoother. It is important that the researcher reacts to questions instead of making a lecture.

Expert–participants interaction

Participants prepared written questions for the researcher and asked others spontaneously during the visit. The researcher moved between small groups, engaging directly with participants. After the talk, prisoners approached the researcher for further discussion. Some debates also emerged, for example around the funding of her research – a topic that reflected participants' strong sense of critical thinking and integrity.

Facilitator–Participants Relationship:

After a noisy first session due to high participation, the facilitation team established communication rules (active listening, respectful speech, equal participation), which significantly improved group dynamics. Over time, trust and familiarity developed: joking together and recognizing them as regular figures who listened and remembered their names.

Facilitator's learnings:

- Building trust is essential before deeper dialogue can emerge.
- Preparation and transparency between facilitators and experts help manage expectations.
- Participants' critical perspectives should be embraced as part of the dialogue, not resisted.

FACILITATOR'S NOTES

- Building trust is essential before deeper dialogue can emerge.
- Preparation and transparency between facilitators and experts help manage expectations.
- Participants' critical perspectives should be embraced as part of the dialogue, not resisted.

What made the activity work well in this context?

- Having a representative who knew the participants well and could personally invite them to participate.
- Keeping the same facilitation team across all sessions to ensure continuity and trust.
- High level of interest among prisoners in environmental and scientific topics.
- Voluntary participation and active engagement in decision-making.
- Alternating group formats (plenary, subgroups, oral votes, sticker votes) to encourage participation from everyone.
- Establishing a horizontal, first-name basis relationship with participants.
- Involving an expert who was open to dialogue and willing to adapt to the audience.
- Producing a tangible, attractive output – a simple yet interactive exhibition that showcased their work.
- Leveraging existing affinities among participants to strengthen teamwork.

Facilitator's learnings:

- Flexibility and adaptability are crucial in restrictive environments.
- Alternating between expressive and reflective activities maintains engagement.
- Tangible results (like an exhibition) help sustain motivation.

What difficulties emerged (e.g., emotional, relational, logistical)?

Logistical:

- Variable schedules and unpredictable timing.
- Fluctuating group size and changing participants.
- Limited access to materials and no possibility to look up information.
- Small room unsuitable for subgroups.
- Need for clear objectives, but frequent adaptations to the plan.
- Restrictions on where outputs could be displayed.

Relational and Emotional:

- Balancing equality with the facilitator's role as a guide and expert.
- Constantly repeating project progress for new participants.
- Ethical reflection on facilitation practices (e.g., use of printed materials vs. environmental impact).
- Occasional tension or dominance by some participants.
- Generational gaps within the group.
- Difficulty of asking personal question in order not to talk about subjects linked with crimes committed
- Heterogeneity within the group
- Misinterpretation of passive attitude in a complex context.

Facilitator's learnings:

- Anticipate logistical unpredictability and prepare "light" adaptable versions of activities.
- Manage group turnover by starting each session with a quick recap.
- Recognize that expertise can emerge from unexpected participants - remain open and flexible.

Did any part of the format or facilitation style need to be adapted?

- Maintain varied activity formats (debate, visual tools, games) but ensure equal speaking time.
- Allow flexibility in scheduling to adapt to institutional constraints.
- Adjust content for different knowledge levels.
- Consider running two sessions with the researcher to deepen understanding and encourage more questions.
- Hold sessions at consistent times and days to foster regular attendance.

Appendix

When this activity is suitable

- When the group already has a trust bond or stable dynamic.
- When participants are open to dialogue and embodied or expressive methods.
- When space is limited but adaptable.
- When the project can be short or long-term (a flip poster exhibition can be built in 4 or 12 sessions depending on the expectations - more or less precise answers, complex questions...)
- When participants have mixed literacy levels, as the activity doesn't require writing.
- When participants have different levels of knowledge

When this activity is less suitable

- When participants are resistant to hearing differing opinions.
- For very large groups (over 15–20 participants).
- With people who do not speak or read the working language fluently.
- For groups only interested in lectures or theoretical learning.

Additional resources

TIM Toolkit. A practical guide output of the Theatre in Mathematics project produced by SCT Centre, describing in detail many theatre exercise, part of the TIM methodology.
<https://old.theatreinmath.eu/outputs/tim-methodology/>

22. Building an interactive map to explore local biodiversity

Designed and tested by: Universcience and Traces, Paris, France

In brief

Duration	4 workshop sessions of 3-hour
Number of participants	Max 20
Number of facilitators	2-4
Special materials	<ul style="list-style-type: none">• A globe looks alike ball• Digital & Audio Tools• Computers or tablets with internet access• 1 computer with Audacity and an excel tab (• Participant's phones with Birdnet/Plantnet applications• Dictaphones• A loudspeaker• Collection tools and material• 1 exploration zone kit (printed park map with exploration zones, documentation sheets, pens, zip-lock bags, adhesive labels, plastic gloves)• Old journal papers• (Herbariums)• Harvest samples from the previous sessions (leaves, feathers...)• Herbariums or other representations created (drawings...)• Printed participants' photos (small size, on photo paper)• Printed illustrations of the sounds recorded• DIY Tools• Soldering tools and electronic devices (iron, wire, press buttons, Arduino board, small loudspeakers, battery etc..).• Red wool yarn and thumbtacks• A map dimension wooden plate with wooden strips• Woodworking tools (saw, hammer, screwdriver, a stapler..)• Map of the environmental place (1 draft + 1 final version)
Objectives	<ul style="list-style-type: none">• Value participants' perceptions and knowledge about the environment• Encourage active participation through collective observation, exploration, and creation• Take ownership of the surrounding biodiversity by producing an interactive map of the park integrating sounds, photos, samples, and stories.
Tested with	Young adults facing various challenges (school drop-out, family, social, language, attention or financial issues) enrolled in a national residential insertion program.

OVERVIEW

This activity invites participants to explore their living environment - its plants, animals, and landmarks — while reflecting on the importance of environmental preservation.

Through outdoor explorations, a theater activity, and discussions with experts, they collect natural elements such as photos, objects, and sounds to create a large interactive map of their surroundings.

This map combines visual and sensory features (photos, plant samples, drawings, sound buttons...), crafted by participants, which can be manipulated to trigger sensory responses - for example, pressing a button to play a recorded sound or lifting a flap to reveal an image.



Context

This activity was tested with young adults facing various challenges (school drop-out, family, social, language, attention or financial issues), enrolled in a national residential insertion program, EPIDE (Établissement pour l'Insertion dans l'Emploi / Establishment for Employment Integration). This program supports their professional and social reintegration into society (to find a job, learn French, get their driving licence...)

The young adults are living in residence in the center which is surrounded of the large park of Château de Montry (France), which includes remarkable trees and diverse species.

The activity was designed in close collaboration with the members of an insertion program, EPIDE, to raise awareness about biodiversity and climate change by exploring this park: collecting, meeting local experts to create an interactive map of their park.

At the end of the four sessions, the participants had created an interactive map about the biodiversity of the park, with the samples they collected (sounds, items, photos...) Participants live on-site, making them a "captive audience," but the format can be adapted for voluntary groups.

The group's knowledge levels were highly heterogeneous: some participants already had familiarity with nature and climate issues, while others had little. Group size was larger than expected and changed between sessions, requiring adaptation. The strong involvement of EPIDE staff supported the process, and despite challenges, the group successfully produced the interactive map.

SUGGESTED SCENARIOS

This activity is particularly suited for groups of young people or adults.

An ideal setting includes access to both an indoor workspace—equipped with tables, basic multimedia tools (tablets, recorders, speakers), and crafting materials—and an outdoor natural area, such as a park, courtyard, or garden, where participants can explore and collect observations.

It is especially relevant in youth centers, museums, schools, or vocational institutions interested in connecting environmental education with artistic or digital practices.

Description

The sessions combine diverse formats: discussion, debate, outdoor exploration, expert input, and hands-on cooperative work. The activity runs over four 3-hour sessions:

Session 1

Group introduction, icebreakers, theater exercises, discussions, and first collective decisions for the map.

Session 2 and 3

Outdoor explorations in small groups, collection of plant and animal samples, photos, and sounds; exchanges with experts; archiving and preparation of map elements.

Sessions 4

Final assembly of the interactive map, integrating collected materials and recorded content, followed by a collective presentation.

TIMING

At the beginning of each session, the group gathers together while facilitators present the plan. Participants then split into smaller groups for specific tasks, and the session closes with a collective summary.

Session 1 – Exploration of participants' perceptions through theater activity

This first session introduces participants to the concept of the interactive map through movement, reflection, and creative expression. It establishes group dynamics, fosters trust, and helps participants begin connecting their personal perceptions of nature to the collective project.

10 min

Introduction

Facilitators welcome participants, introduce themselves, explain objectives, and set basic ground rules for respectful dialogue and participation.

Purpose / Notes:

Creates a safe and inclusive environment for collective engagement.

15 min	<p>Icebreaker – Moving Debate Participants move across the room according to their opinions on light environmental statements (e.g., 'I find snails cute', 'Nature calms me'). They briefly explain their choices.</p> <p>Purpose / Notes: Encourages movement, openness, and awareness of diverse perspectives.</p>
30 min	<p>Material Presentation Facilitators introduce the concept of the interactive map and demonstrate tools (tablets, dictaphones, etc.). Participants discuss possible elements to include (photos, sounds, plant samples).</p> <p>Purpose / Notes: Clarifies project objectives and invites early co-design participation.</p>
20 min	<p>Artistic Activity – Warm-up Two short games encourage cooperation: 'Ball and Name' (sharing names and countries) and 'The Mind' (counting collectively without overlap). Alternatively, 'The Floor is Lava' can be used for groups needing more physical engagement.</p> <p>Purpose / Notes: Builds trust, listening, and collaboration among participants.</p>
30 min	<p>Artistic Activity – Theater Sculptures Participants respond physically to environmental words (e.g., 'climate change', 'the park at night'). Gestures are observed, discussed, and categorized on post-its by facilitators. Later, participants regroup based on similar gestures or ideas (e.g., trees, animals, friendship).</p> <p>Purpose / Notes: Stimulates embodied understanding and collective meaning-making.</p>
15 min	<p>Breaktime Facilitators categorize post-its into themes and prepare visual summary on the whiteboard.</p> <p>Purpose / Notes: Provides a transition moment and visual synthesis of emerging ideas.</p>
20 min	<p>Summary Discussion Facilitators recap and synthesize main ideas for the map. Participants can add new insights or refine previous ones.</p> <p>Purpose / Notes: Consolidates ideas and encourages shared ownership of the process.</p>
10 min	<p>Decision Participants vote to select which ideas will appear on the interactive map.</p> <p>Purpose / Notes: Democratizes decision-making and prioritizes collective choices.</p>

15 min	<p>Project Details Facilitators outline the next session (outdoor exploration, expert visit) and explain that participants can record questions or reflections for the expert.</p> <p>Purpose / Notes: Builds continuity and anticipation for the next phase.</p>
15 min	<p>Recording Participants record 20–30 second audio messages using prompts ('Hi XX, I was wondering...', 'Today I learned that...'). Facilitators ensure quiet spaces for recording.</p> <p>Purpose / Notes: Encourages reflection and communication through digital storytelling.</p>
3 min	<p>Conclusion Facilitators thank participants and confirm logistics for the next session.</p> <p>Purpose / Notes: Ends on an appreciative and motivating note.</p>

Session 2 and 3 - Collection and expert exchange

These two sessions focus on outdoor exploration and exchange with an environmental expert. Participants collect natural elements, reflect on their environment, and contribute to building the interactive map. Each session follows a similar structure, combining theoretical input, observation, and creative documentation.

5 min	<p>Introduction Facilitators welcome participants, recap the previous session, introduce the expert (if present), and outline the day's program.</p> <p>Purpose / Notes: Creates continuity and clarifies learning objectives.</p>
30 min	<p>Group Constitution The expert (or facilitators) answers questions recorded in the previous session. Participants are encouraged to ask spontaneous questions. Facilitators moderate, rephrase complex terms, and link discussions to previous insights. Includes advice on observing and collecting samples responsibly.</p> <p>Purpose / Notes: Strengthens scientific understanding and models respectful dialogue with experts.</p>
10 min	<p>Theoretical Input Participants are divided into small groups, each assigned to an exploration zone in the natural surroundings (e.g., park areas).</p> <p>Purpose / Notes: Encourages small-group collaboration and responsibility.</p>

50 min

Exploration - Part 1

Groups explore the assigned areas using provided tools to collect and label at least three samples (plants, sounds, photos).

To help with identification, you can use plant or bird sound recognition apps (e.g., PlantNet, BirdNet, etc.).

Facilitators explain collection protocol, assist identification, and ensure respect for the environment. In Session 2, some participants stay indoors to handle archiving; in Session 3, some work on technical preparation (e.g., soldering).

Note: it is important to insist on the fact that every sample needs to be perfectly located on the map and named (could be identity in the room after the exploration, however), to place them on the map later.

Purpose / Notes:

Applies learning through sensory and practical engagement with nature.



Session 2 and 3 - Gathering samples with an plant expert

20 min

Breaktime

Refreshments are served. Facilitators continue archiving and organizing materials.

Purpose / Notes:

Allows rest and informal conversation, maintaining group cohesion.

15-20 min

Recap of Exploration

Groups present their collected items. The expert provides comments on species identification and habitats, noting missing elements (e.g., sounds, photos).

Purpose / Notes:

Supports feedback, reflection, and deeper ecological awareness.

30 min

Exploration - Part 2

Groups return outdoors for additional collection, focusing on new goals (e.g., new species, areas, or sound samples). They collect and archive three more samples following the same protocol.

Note: If time is missing, this session can be optional and reduced to prioritize another step.

Purpose / Notes:

Extends discovery and refines documentation practices.



Sessions 2 and 3 - Labeling and identification of gathered samples on the map

15 min

Collective Discussion

The group gathers to discuss findings. A theater-based question from Session 1 may be revisited with the expert (e.g., 'What will the park look like in 100 years?').

Purpose / Notes:

Encourages synthesis, imagination, and connection to earlier symbolic work.

15 min

Recording

Participants record reflections or new questions for the expert, using prompts such as 'What I learned today...' or 'I was wondering if...!'

Purpose / Notes:

Reinforces reflection and communication while archiving group memory.

5 min

Conclusion

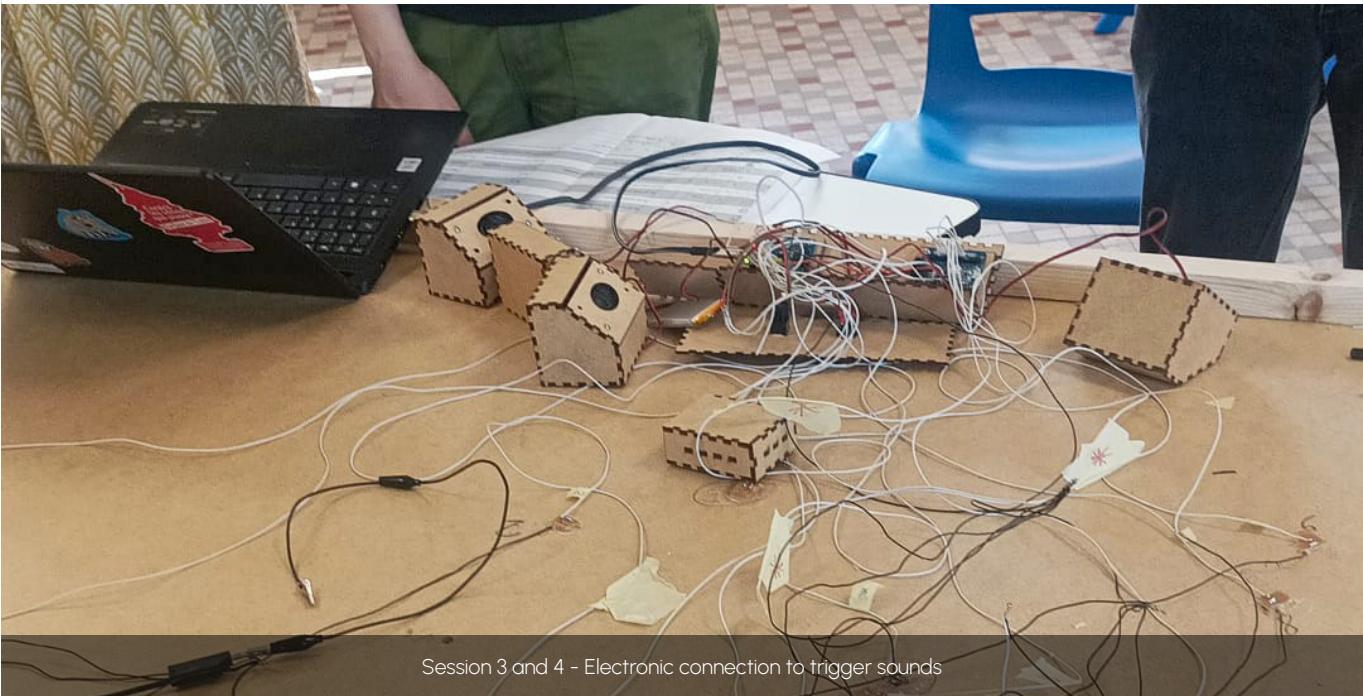
Facilitators thank participants and the expert, previewing the next session (final map production).

Purpose / Notes:

Closes with appreciation and maintains motivation for completion.

Session 4 - Final session - Creation and assembly of the map

This final session focuses on assembling all the materials collected during the previous sessions. Participants work in small groups to construct and finalize the interactive map, combining sounds, images, and samples into a cohesive and functional piece.

15 min	<p>Introduction Facilitators welcome participants, recap the first three sessions, outline the day's schedule, and emphasize time management to ensure map completion.</p> <p>Purpose / Notes: Creates focus and continuity, setting a collaborative and goal-oriented tone.</p>
30 min	<p>Group Constitution Participants are divided into five task-based groups, each guided by a facilitator:</p> <ol style="list-style-type: none">1. Sound Management – organize and link sound files, cut and glue representative images.2. Wooden Frame Construction – build and wire the frame (Arduino, buttons, speakers, battery).3. Photo Management – cut, label, and glue photos at their corresponding locations.4. Anecdotes Recording – record short messages (20–30s) about the park, its species, or personal experiences.5. Sample Management – finalize labeling, prepare herbariums, and attach samples (e.g., with wool and thumbtacks). <p>Purpose / Notes: Promotes distributed collaboration, linking artistic, technical, and scientific skills.</p>
60 min	 <p>Session 3 and 4 - Electronic connection to trigger sounds</p> <p>Construction Phase Groups work in parallel on their assigned tasks. The map and its frame remain separate until the final assembly to allow progress on all components simultaneously.</p> <p>Purpose / Notes: Encourages teamwork, time management, and integration of multiple creative processes.</p>

15 min	<p>Participation Feedback & Evaluation Participants reflect on their learning experience by placing stickers on pre-written statements describing the activity.</p> <p>Purpose / Notes: Supports participatory evaluation and gives visibility to participants' perspectives.</p>
20 min	<p>Breaktime Snacks are provided while facilitators continue assembling the map and preparing final connections.</p> <p>Purpose / Notes: Provides rest, informal discussion, and momentum before finalization.</p>
60 min	<p>Map Finalisation All groups collaboratively assemble their components: sounds, photos, samples, and anecdotes. The final map includes:</p> <ul style="list-style-type: none"> Photos of plants/animals with liftable flaps showing their names. Samples (e.g., dried leaves, bark) connected to their location with string. Buttons triggering recorded sounds through an Arduino setup linked to a speaker. <p>The outcome is an interactive, multisensory map of the park.</p> <p>Purpose / Notes: Completes the creative and educational cycle with a tangible collective artifact.</p>



5 min	<p>Conclusion Facilitators present the completed map, thank participants, and invite them to test the interactive elements. The map remains at the hosting center as a lasting collective creation.</p> <p>Purpose / Notes: Reinforces achievement, closure, and ownership of the learning experience.</p>
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Settings	Topics
<ul style="list-style-type: none"> · A large room for about 20 people, with space to move, form a circle, and work in groups. · Movable tables and chairs arranged in 4–5 islands, plus one large table for the map. · A whiteboard. · A space for plenary moments with benches/chairs. · Wi-Fi and access to electrical outlets required. · A zone for samples storage (until the next session) 	Biodiversity, local fauna, local species and their habitats, species identification, climate, history.

Resources	Session 1	Session 2-3	Session 4
Sticky notes, pencils, markers, glue sticks, tape, scissors, white sheets.	X	X	X
Paper sheets with instructions/ information	Icebreaker sentences Instructions for audio message	Instruction for audio messages	environmental information/anecdotes
Cardboard paper sheets with cuttable rectangles (to label the back of the photos)			X
A globe looks alike ball	X		
Digital & Audio Tools			
Computers or tablets with internet access (for research, photos, and sound recording)	X	X (one per zone)	X (one per zone)
1 computer with Audacity and an excel tab (recordings's names and the content match)			X
Participant's phones with Birdnet/Plantnet applications (required internet access, storage and a good sound/photo/video quality)	1	1 or 2 per group, if possible	
Dictaphones	one per group or zone to explore	one per group or zone to explore	4
A loudspeaker	X	X	X
Audio's participants messages from previous sessions		X	
Recorded sounds (archived in the drive account) from explorations		X	X
Collection tools and material			
1 exploration zone kit (printed park map with exploration zones, documentation sheets, pens, zip-lock bags, adhesive labels, plastic gloves)		1 folder/zone	
Old journal papers (Herbariums)		X (if oriented on flora)	
Harvest samples from the previous sessions (leafs, feathers...)		X (in session 3)	X

Herbariums or other representations created (drawings...)			X
Printed participants's photos (small size, on photo paper)		X	X
Printed illustrations of the sounds recorded			X
DIY Tools			
Soldering tools and electronic devices (iron, wire, press buttons, arduino board, small loudspeakers, battery etc..)	X	X (in session 3)	X
Red wool yarn and thumbtacks			X
A map dimension wooden plate with wooden strips			X
Woodworking tools (saw, hammer, screwdriver, a stapler..)			X
Map of the environmental place (1 draft + 1 final version)	X (draft)	X (draft)	X (final)

REFLECTION QUESTIONS FOR THE DESIGNER/FACILITATOR

How do you value participants' experience?

Participants' experiences were valued throughout the four sessions via debates, questions, exploration, and creation. They shared their perceptions of the environment, prior knowledge, and preferences for the map. Activities such as the theater game, "moving debate", and voting (Session 1) highlighted their voices and legitimized their input.

Hands-on activities (explorations, sample identification, map construction) also allowed participants to use diverse skills - such as photography, drawing, naturalist knowledge, and woodwork - while contributing to a collective project. The final map was designed to stay in the center, giving long-term visibility to their contributions. Supervisors also enriched the activity by sharing personal or professional knowledge of the park.

Facilitator's learnings:

- Create multiple opportunities for participants to express themselves in different ways (discussion, movement, making)
- Ensure their choices shape the final output, which reinforces ownership and motivation.

How do you reinforce two-way dialogue among participants, facilitators, and experts?

Dialogue was encouraged through:

- Establishing a climate of kindness, respect, and listening.
- Embedding Q&A formats (live or via dictaphone recordings) to make participants' voices central.
- Creating small group moments where participants could explain discoveries to facilitators not present during explorations.
- Preparing experts in advance with participants' questions and supporting them in adopting a listening posture, encouraging horizontal dialogue rather than a lecture-style exchange.
- Emphasizing that everyone has a role: experts bring scientific knowledge, while participants share their own experiences, observations, and knowledge of the environment — valuing both forms of expertise equally
- Collaboration with supervisors, who co-designed sessions based on their trust relationship with participants.

FACILITATOR'S NOTES

What made the activity work well in this context?

- Variety of methods (exploration, construction, discussion) and tangible outcomes.
- Participants were the main decision-makers.
- Expert intervention, supported by pre-recorded questions and preparatory discussions.
- Strong involvement of EPIDE staff, who continued work between sessions (e.g., herbarium preparation).
- Multiple facilitators allowed parallel activities and smaller group work.
- Spacious environment and proximity of indoor/outdoor areas:
- Natural setting and spring season facilitated observations.

What difficulties emerged (e.g., emotional, relational, logistical)?

- The heterogeneity of the participants previous knowledge: final choice of orienting more the map on nature and the park's species in general than on climate change challenges (but in accordance with their envies for the map).
- The lack of motivation of some of the participants (not the majority, however), a lot of noise sometimes (headcount dependent), the group's movements in the room (headcount dependent), focus issues, and a headcount higher than expected.
- Activities and collective moments duration possibly too long for some of them (vote, theater part...): an idea could be to do less or shorter tours during the theater activity.

Did any part of the format or facilitation style need to be adapted?

- Have a contingency plan for bad weather.
- Adjust activity length, breaks, and group size to participants' profile.
- Ensure enough facilitators/supervisors to accompany all groups outside.
- Clarify maximum group size feasible per facilitator.

Appendix

When this activity is suitable

- When participants share a place (home, workplace) where biodiversity can be explored
- When the group of participants can remain stable between several sessions
- When relays or supervisors help to build the activity and have the trust of the participants
- When the facilitators themselves have or can easily mobilize people with scientific and technical skills
- When the final product can be seen by others and valued

When this activity is less suitable

- The theater activity : when the participants are really introverted and involuntary to participate. When the room is exposed to outside views (the participants could be seen).
- An adaptation is needed in case of a participant with certain disabilities, in general and not only for this par : for the exploration (presence of concrete paths or not, duration adaptations?), the room layout, the experts intervention (type and level of content, depending on the type of disability), the professional contacted etc.
- When the group is way too large a too dissipated for the size of the room/the number of facilitators/the numbers of sessions/the size of the park.
- When the facilitators/supervisors don't have knowledge on construction, wooden working, soldering, or nature observation, or professional unavailable.
- When an expert intervention (or a facilitator with knowledge on the topic) isn't possible to guide and answer the questions.
- Adaptation when the group doesn't have any previous knowledge about the topic or doesn't

speak any french (live translations needed).

- When the activity is conducted in another season than spring (winter, during a heatwave...)
- When there is no calm environment to record the sounds (with no cars, other noises).
- If a group isn't available for the activity or not for all of the 4 sessions (complicated when the group is changing). Adapted for a community center/neighborhood house or people in precarious situations.

Additional resources

Hardware:

- Audio board, Adafruit Audio FX Sound Board:

<https://learn.adafruit.com/adafruit-audio-fx-sound-board/copying-audio-files>

- Adafruit LiPo Battery Backpack: <https://www.adafruit.com/product/2124>

Software:

- Audacity – free software for managing and editing recorded sounds:

<https://audacity.fr.softonic.com/telecharger>

Theatre exercises:

TIM Toolkit. A practical guide output of the Theatre in Mathematics project produced by SCT Centre, describing in detail many theatre exercise, part of the TIM methodology.

<https://old.theatreinmath.eu/outputs/tim-methodology/>

III. Annexes

Annex 1: Facilitator scripts for imagination exercise

These two scripts introduce the imagination exercise. The introduction / guideline prepares the audience about what to expect and how this imagination is meant to be done.

The imagination script is a text to read slowly and guides the audience to imagine their own pictures.

Introduction and Guideline for Participants

- We are about to close our eyes and we will all paint a picture about climate change in our minds.
- Your picture is not about showing everything you know about climate. It is about what you think about the topic, what you feel, or what you wish for. Simply what connects YOU to the topic of climate change or global warming.
- We will give you instructions for your image, but only use the instructions you like. If you don't like an instruction, just ignore it and continue thinking about your image.
- The picture can be realistic, but it can also be abstract or imaginary, or it can even be just a colour or a feeling. Several different pictures may also arise in your mind.
- There are no wrong pictures. Whatever you see is a good picture.
- You may also see pictures that trigger bad feelings. That's OK; negative feelings are also part of life. But this exercise is not meant to make you feel bad. If you notice that the exercise is not good for you, you can stop. If you feel fear, pain, or suffering, it is better to open your eyes again and try not to think about these images and wait until the others are finished.

Guided Imagination Script (read slowly, with pauses to let people create their image)

Stand scattered around the room and shake yourselves briefly.

Stand firmly on both feet (or sit down) and close your eyes.

Be aware in what mindset you are here today.

Be aware of the space you are standing in right now.

Be aware of the people you are standing with in this space.

Take three deep breaths in and out.

We are here today to see what your own images of climate change are.

Think about the words "climate change."

What does the thought of climate change trigger in you?

Fear / Hope / I don't care / Feelings of community / Worries / Changes

Notice your feelings—what do you feel when you think about climate change?

What triggers these feelings?

Think of an image that matches your feelings about climate change.

Is your image from the past, the present, or the future?

Is your image light or dark?

What colours do you see?

What time of day or season is it?

What can you see in the foreground of the image,

and what is in the background?

Are there people in the image?

Is your image in motion?
Are things or people changing?
Where is something moving?
Do the movements have a rhythm?

What do your senses perceive?
Is it cold or warm?
Humid or dry?
What does your image smell like?

Do you hear noises, voices, or music?
Is it loud or very quiet in your picture?
Where do the noises or voices come from?

Which things are particularly important in the picture?
are you only observing, or interacting with the picture?
What connects you to your image?

Slowly bring yourself back to the present moment.
Bring your picture with you.
Keep your picture safe for yourself.

Annex 2: Climate Perspectives

Klima-Blickwinkel / Climate Perspectives

Discussion Cards for a Look at Vienna/Austria 2040 and possible CO₂ mitigation scenarios.

Usage Information for reader:

The original German version of the game cards "Klima-Blickwinkel" were used for the activities with the FutureFactory within the Project Come Together. To make the content of the activity understandable, the produced cards are presented in an english table version, which was produced with the help of an automatic translation tool.

For a better impression of the game cards, images of the original cards are attached below. To obtain the original, illustrated German files for printing, please contact the association ScienceCenter-Netzwerk.

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Klima-Blickwinkel

original German Version (2024)
Author: ScienceCenter-Netzwerk, Vienna, Austria
Licensed under CC BY 4.0
contact: office@science-center-net.at

Verein
ScienceCenter
NETZWERK

Frontside of Card	Backside of Card
DESIREABLE	LIKELY
UNDESIRED	UNLIKELY
<p>Future Scenario 2040 – Car-Free Vienna</p> <p>In Vienna, cars are always shared and used by several people. Nobody owns a private car anymore. This means far fewer cars drive in the city. As a result, there is more space for public transport, emergency vehicles, delivery vehicles, and taxis. Where there used to be parking lots, there are now meadows and flowers.</p>	<p>Exciting to know:</p> <p>If parking spaces are turned into green spaces, we could save up to 870,000 tons of CO2. For comparison: a mid-sized car emits about 1,400 kg of CO2 per year.</p> <p>More public transport ensuring that all places in Vienna are well connected could save up to 800,000 tons of CO2.</p> <p>For further discussion: What is needed for such a transformation? How could the new green spaces be used? How would this affect quality of life?</p> <p>https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf (11.07.2024), p. 45</p>
<p>Future Scenario 2040 – Plant-Based Nutrition</p> <p>Most people in Austria no longer eat meat or any animal products. Vegetarian and vegan foods are cheaper than meat thanks to subsidies.</p>	<p>Exciting to know:</p> <p>Animal husbandry, especially keeping many animals in confined spaces, produces large amounts of climate-damaging greenhouse gases. With less factory farming, especially fewer cows, fewer greenhouse gases are emitted.</p> <p>Shorter transport routes lead to fewer CO2 emissions. Healthy and sustainable nutrition (expansion of organic farming, focus on regional plant-based products) could save around 1,678 kilotons of CO2 by 2040. Local products have shorter transport routes: fruit and vegetables can be harvested riper, are fresher, and taste better. Organic food is healthier because it does not contain harmful pesticides.</p> <p>For further discussion: What does this mean for agriculture? Which foods are more sustainable than others? Which foods are healthier than others? What is needed so that more people can afford organic food?</p> <p>https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf (11.07.2024), pp. 119.</p>
<p>Future Scenario 2040 – Public Transport for All</p> <p>Most people in Austria travel by train or other public transport. Ticket prices have been halved thanks to higher subsidies for public transport companies.</p>	<p>Exciting to know:</p> <p>More public transport could save about 750,000 tons of CO2 if buses and trains run regularly and people are well connected.</p> <p>More public transport also means less noise, congestion, and air pollution. This also improves people's quality of life, especially in cities.</p> <p>For further discussion: What do we need to ensure that everyone can use public transport?</p> <p>https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf (11.07.2024), pp. 44-46</p>
<p>Future Scenario 2040 – Efficient and Climate-Friendly Heating Systems</p> <p>Most people heat with renewable energy. Many buildings have been renovated and sustainable heating systems installed. Buildings are now better insulated, keeping rooms cooler in summer and requiring less heating in winter.</p>	<p>Exciting to know:</p> <p>Renovating all buildings and switching to sustainable heating systems (e.g., heat pumps) could save about 750 kt of CO2 by 2030. Overall energy efficiency would increase.</p> <p>Lower rents in unsanctioned buildings would contribute to climate justice. Many people in Austria support this measure.</p> <p>Glantschnigg, Christian (2024). FORESIGHT Report. Climate Justice in Austria. https://www.momentum-institut.at/wp-content/uploads/2024/07/foresight-bericht-23142-momentum-klimagerechtigkeit-in-sterreich.pdf</p> <p>For further discussion: What incentives could motivate landlords to switch to renewable energy more quickly? Who coordinates these conversion measures?</p>
<p>Future Scenario 2040 – Renewables Cheaper than Fossil Energy</p> <p>Fossil energy sources – oil, coal, and gas – have become very expensive due to high taxes. Renewable energy is much cheaper in comparison. People who live in rental apartments without renewable heating systems pay lower rents. Landlords bear the responsibility and cost for the conversion.</p>	<p>Exciting to know:</p> <p>Phasing out fossil gas could save around 11,000 kilotons of CO2. However, this requires sufficient storage capacity. The expansion of renewable energy should be coordinated at the federal level. Different alternative energy sources (wind, water, and solar energy) should be combined to generate enough electricity.</p> <p>Renovating all buildings and switching to sustainable heating systems (e.g., heat pumps) could save about 750,000 tons of CO2 by 2030. Overall energy efficiency would increase.</p> <p>For further discussion: What does this mean for electricity demand in Austria? Who is responsible for renovating buildings? What does this mean for tenants?</p> <p>https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf (11.07.2024), pp. 73, 95</p>

<p>Future Scenario 2040 – Slower, Safer Roads</p> <p>Speed limits on Austria's roads are lower. On highways, 100 km/h applies, on rural roads 80 km/h, and in urban areas 30 km/h.</p>	<p>Exciting to know:</p> <p>Lower speed limits could save 1,500–1,800 kilotons of CO2. This measure could also increase road safety, as about 15% fewer accidents would occur.</p> <p>Lower speeds also mean less noise, particulate pollution, air pollution, and wildlife accidents.</p> <p>For further discussion: How could this affect people's health and well-being?</p> <p>https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf (11.07.2024), p. 43</p>
<p>Future Scenario 2040 – Green Cities</p> <p>Many surfaces that were covered with asphalt or concrete have been unsealed, i.e., the surface was removed and greened. When creating new housing, care is taken to use as little land as possible.</p>	<p>Exciting to know:</p> <p>Concrete and asphalt surfaces in cities cause the ground to heat up strongly. Green spaces, especially trees, cool the environment and help against urban heat.</p> <p>Soil provides a habitat for animals and plants. More soil therefore means more space for different species. In addition, unsealed soil can also store carbon. If the soil is sealed, the carbon is released as climate-damaging CO2 into the atmosphere and contributes to global warming.</p> <p>For further discussion: How can sealed surfaces be unsealed and used sustainably? How can we build enough housing without sealing a lot of land?</p> <p>https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf (11.07.2024), p. 121</p>
<p>Future Scenario 2040 – Austria's Nature Protected</p> <p>The number of nature reserves in Austria has increased fivefold. Mixed forests and moors are under special protection.</p>	<p>Exciting to know:</p> <p>Moors store large amounts of carbon. If moors are destroyed, this carbon is released as climate-damaging CO2 into the atmosphere and contributes to global warming. Special protection of moors is therefore particularly important for climate protection.</p> <p>Nature reserves help protect biodiversity. This diversity is important so that ecosystems function well and can adapt more easily to disturbances.</p> <p>For further discussion: What does this mean for wildlife in these areas? Who is responsible for protecting these areas? What measures are needed for this?</p> <p>https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf (11.07.2024), p. 121</p>
<p>Future Scenario 2040 – No More Single-Use Plastic</p> <p>There is no longer any single-use plastic packaging. Austria has a comprehensive deposit system for packaging to ensure multiple use. It is mandatory to offer food with as little packaging as possible or to use sustainable packaging materials.</p>	<p>Exciting to know:</p> <p>Reusable packaging could save around 130 kilotons of CO2. A comprehensive deposit system would also mean less microplastic in the environment. In general, there would be less waste.</p> <p>For further discussion: Which packaging material is particularly sustainable? What challenges could arise when introducing a deposit system?</p> <p>https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf (11.07.2024), p. 141</p>
<p>Future Scenario 2040 – Polluter Pays Principle</p> <p>CO2 is taxed progressively in Austria. People and companies that produce more CO2 also pay higher taxes.</p>	<p>Exciting to know:</p> <p>A higher CO2 price for those who cause more emissions ensures that the costs of the climate crisis are borne primarily by those responsible. This also provides an incentive to behave more climate-friendly.</p> <p>Such a tax reform also increases climate justice and protects those most affected by the crisis. Many people in Austria support this measure.</p> <p>For further discussion: How could this help create fairness between poorer and richer people? What incentives could be given to companies to produce less CO2?</p> <p>https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf (11.07.2024), pp. 152, 153</p> <p>Glantschnigg, Christian (2024). FORESIGHT Report. Climate Justice in Austria. https://www.momentum-institut.at/wp-content/uploads/2024/07/foresight-bericht-23142-momentum-klimagerechtigkeit-in-osterreich.pdf</p>



WAHRSCHEINLICH



UNWAHRSCHEINLICH



ERWÜNSCHT



UNERWÜNSCHT

Keine Autos mehr in der Stadt



Zum Weiterdenken...

Wenn Parkplätze zu Wiesen gemacht werden, könnten wir bis zu 870.000 Tonnen CO2 einsparen. Zum Vergleich: Ein Mittelklassewagen stößt etwa 1400kg CO2 pro Jahr aus. Mehr öffentliche Verkehrsmittel, die dafür sorgen, dass alle Orte in Wien gut angebunden sind, könnten bis zu 800.000 Tonnen CO2 einsparen.

Fragen zum Weiterdiskutieren:

Was braucht es für so eine Umgestaltung?
Wofür könnte man die neuen Grünflächen nutzen?
Wie wirkt sich das auf die Lebensqualität aus?

Quelle: https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf, S. 45

Nur mehr vegetarische und vegane Supermärkte



Zum Weiterdenken...

Tierhaltung, vor allem viele Tiere auf engem Raum, produziert große Mengen klimaschädlicher Treibhausgase. Durch weniger Massentierhaltung, besonders von Kühen, werden weniger Treibhausgase ausgestoßen. Kürzere Transportwege führen zu weniger CO2-Emissionen. Gesunde und nachhaltige Ernährung (Ausbau von BIO-Landwirtschaft, Fokus auf regionale pflanzliche Produkte) könnte bis 2040 ca. 1678 Kilotonnen CO2 einsparen. Lokale Produkte haben kürzere Transportwege: Obst und Gemüse kann reifer geerntet werden, ist frischer und schmecken dadurch besser. BIO-Lebensmittel sind gesünder, weil sie keine schädlichen Pestizide enthalten.

Fragen zum Weiterdiskutieren:

Was bedeutet das für die Landwirtschaft?
Welche Lebensmittel sind nachhaltiger als andere?
Welche Lebensmittel sind gesünder als andere?
Was braucht es, damit mit sich mehr Menschen
BIO-Lebensmittel leisten können?

Quelle: https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf, S. 139f.

Mehr öffentliche Verkehrsmittel und günstigere Tickets für alle



Keine Kohle-, Öl- oder Gasheizungen mehr. Den Umbau in Wohnungen müssen Vermieter:innen bezahlen.



Tempo 100 auf Autobahnen, 80 auf Landstraßen und 30 im Ortsgebiet



Weniger Bodenversiegelung, weniger Boden wird verbraucht



Zum Weiterdenken...

Mehr öffentliche Verkehrsmittel könnten ca. 750.000 Tonnen CO2 einsparen, wenn Bus und Bahn regelmäßig fahren und die Menschen dadurch gut angebunden sind. Mehr öffentlicher Verkehr bedeutet auch weniger Lärm, Stau und Luftverschmutzung. Dadurch verbessert sich auch die Lebensqualität der Menschen, vor allem in der Stadt.

Fragen zum Weiterdiskutieren:

Was brauchen wir, damit alle Menschen öffentliche Verkehrsmittel nutzen können?

Quelle:
https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf (11.07.2024), S. 44-46



Zum Weiterdenken...

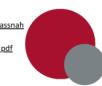
Eine Sanierung aller Gebäude und eine Umstellung auf nachhaltige Heizformen (z.B. Wärmepumpen) könnte bis 2030 ca. 750kt CO2 einsparen. Generell würde die Energieeffizienz erhöht werden.

Niedrigere Mieten in nicht sanierten Gebäuden würde einen Beitrag zur Klimagerechtigkeit leisten. Viele Menschen in Österreich sind für diese Maßnahme.

Fragen zum Weiterdiskutieren:

Was brauchen wir, damit Mobilität in Europa weiter möglich ist?

Quelle:
https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf S. 190
<https://www.momentum-institut.at/wc-content/uploads/2024/07/erschließt-Bericht-23142-momentum-klimagerechtigkeit-in-österreich.pdf>
<https://glanzhaus-christel.at/2024/07/erschließt-Bericht-23132-momentum-klimagerechtigkeit-in-österreich.pdf>



Tempo 100 auf Autobahnen, 80 auf Landstraßen und 30 im Ortsgebiet

Zum Weiterdenken...

Mit niedrigeren Tempolimits könnten 1500-1800 Kilotonnen CO2 eingespart werden. Diese Maßnahme könnte auch zu mehr Verkehrssicherheit beitragen, da ca. 15% weniger Unfälle passieren würden. Niedrigere Geschwindigkeiten führen auch zu weniger Lärm, Feinstaubbelastung, Luftverschmutzung und Wildschäden.

Fragen zum Weiterdiskutieren:

Wie könnte sich das auf die Gesundheit und das Wohlbefinden der Menschen auswirken?

Quelle:
https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf S. 44-46



Zum Weiterdenken...

Betonierte und asphaltierte Böden in der Stadt führen dazu, dass sich die Flächen stark aufheizen. Begrünte Flächen und vor allem Bäume kühlen die Umgebung und helfen so gegen Hitze in der Stadt. Böden bieten Lebensraum für Tiere und Pflanzen. Mehr Böden bieten daher mehr Platz für unterschiedliche Tier- und Pflanzenarten. Außerdem kann im unversiegelten Boden auch Kohlenstoff gespeichert werden. Wird der Boden versiegelt gelangt der Kohlenstoff als klimaschädliches Treibhaus CO2 in die Lufthülle der Erde und trägt zur Klimaerwärmung bei.

Fragen zum Weiterdiskutieren:

Wie können versiegelte Flächen entsiegelt und nachhaltig genutzt werden? Wie können wir genug Wohnfläche bauen, ohne dabei viel Boden zu versiegeln?

Quelle: https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf S. 95



Mehr Naturschutzgebiete, v.a. bei Mooren und Mischwäldern



Zum Weiterdenken...

Moore speichern große Mengen an Kohlenstoff. Werden Moore zerstört gelangt dieser Kohlenstoff als klimaschädliches Treibhaus CO2 in die Lufthülle der Erde und trägt zur Klimaerwärmung bei. Ein besonderer Schutz von Mooren ist daher besonders wichtig für den Klimaschutz. Naturschutzgebiete helfen die Vielfalt an Pflanzen und Tieren zu schützen. Diese Vielfalt ist wichtig für damit Ökosysteme gut funktionieren und sich leichter an Störungen anpassen können.

Fragen zum Weiterdiskutieren:

Was bedeutet das für die Tierwelt in diesen Gebieten?
Wer ist für den Schutz dieser Gebiete verantwortlich?
Welche Maßnahmen brauchen wir dafür?

Quelle:
https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf (11.07.2024), S. 121.



nur mehr nachhaltige Verpackungen, Pfand-System für Flaschen und Dosen



Zum Weiterdenken...

Verpackungen, die mehrere Male verwendet werden, können rund 130 Kilotonnen CO2 einsparen. Durch ein umfangreiches Pfandsystem würde außerdem weniger Mikroplastik in die Umwelt gelangen. Generell gäbe es weniger Müll.

Fragen zum Weiterdiskutieren:

Welches Verpackungsmaterial ist besonders nachhaltig?
Welche Herausforderungen könnte die Einführung von einem Pfand-System mit sich bringen?

Quelle: https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf (11.07.2024), S. 141.



gestaffelte CO2 Steuer: hoher CO2-Ausstoß bedeutet hohe Steuern



Zum Weiterdenken...

Ein höherer CO2-Preis für diejenigen die mehr Emissionen verursachen würde dazu führen, dass jene die Kosten für die Klimakrise tragen die auch hauptsächlich dafür verantwortlich sind. Das bietet auch einen Anreiz dafür, sich klimafreundlicher zu verhalten.
So eine Steuerreform erhöht außerdem die Klimagerechtigkeit und schont diejenigen, die besonders von der Krise betroffen sind. Viele Menschen in Österreich befürworten diese Maßnahme.

Fragen zum Weiterdiskutieren:

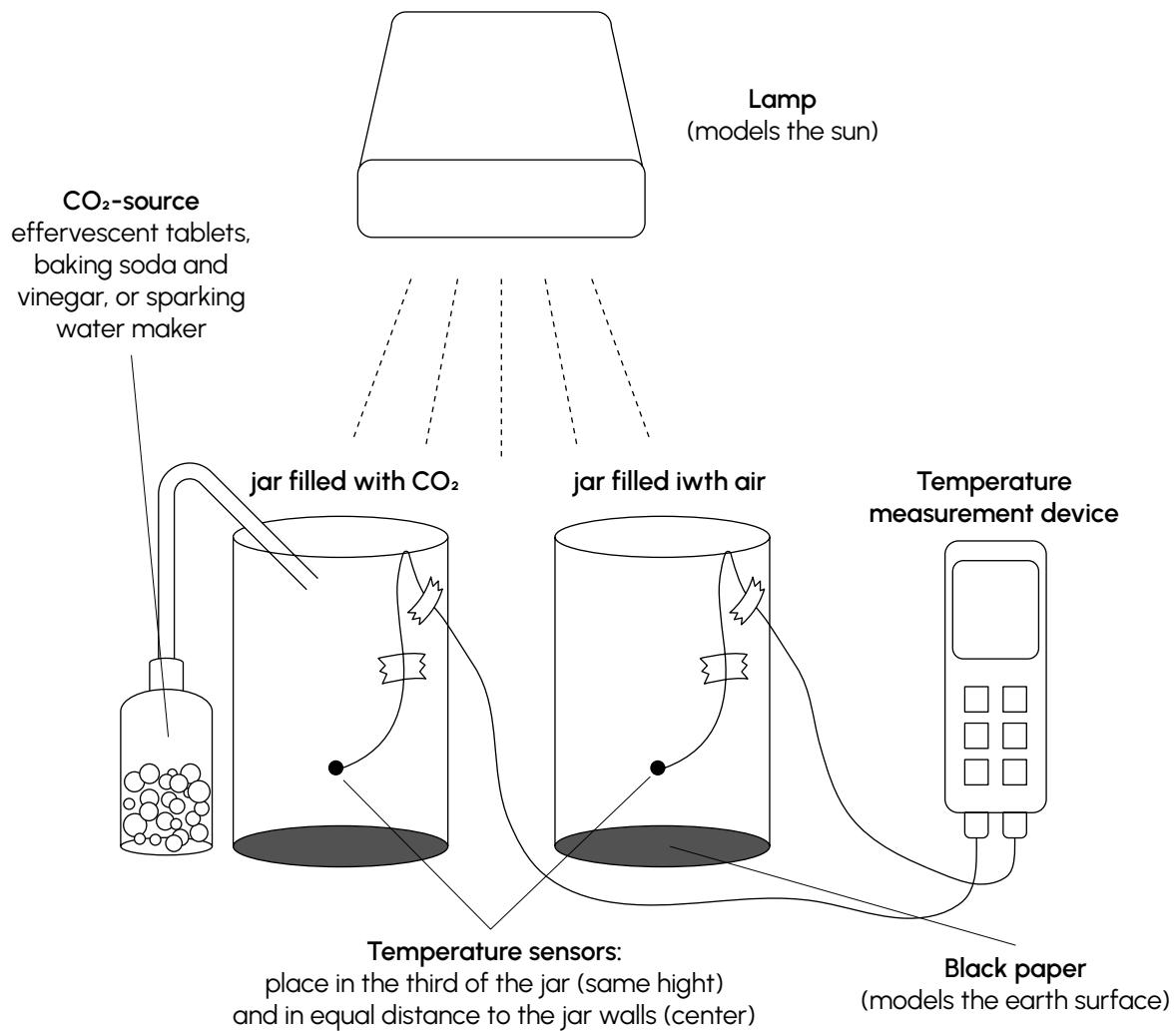
Wie könnte das helfen, Gerechtigkeit zwischen ärmeren und reichereren Menschen zu schaffen? Welche Anreize könnte es für Unternehmen geben, damit sie weniger CO2 produzieren?

Quelle: https://ccca.ac.at/fileadmin/00_DokumenteHauptmenue/02_Klimawissen/RefNEKP/Bericht/NEKP_Wissenschaftliche_Bewertung_der_Massnahmen_der_Stellungnahmen_Februar2024.pdf, S. 43
Glantschnig, Christian (2024). FORESIGHT Bericht. Klimagerechtigkeit in Österreich. <https://www.momentum-institut.at/wp-content/uploads/2024/07/foresight-bericht-23142-momentum-klimagerechtigkeit-in-ostereich.pdf>



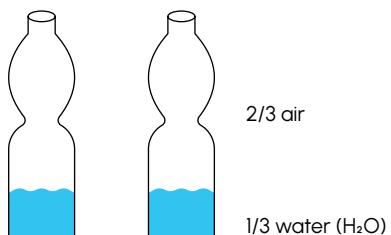
Annex 3: Greenhouse effect experiment

A sketch for the experiment set up

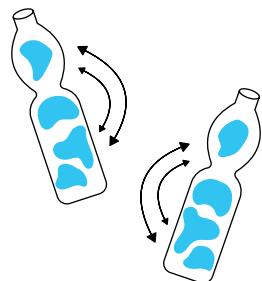


Annex 4: Ocean acidification experiment

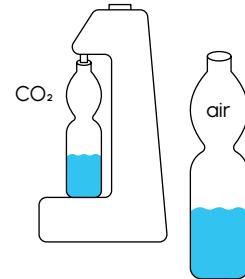
- 1 Fill 2 plast bottle 1/3 with water



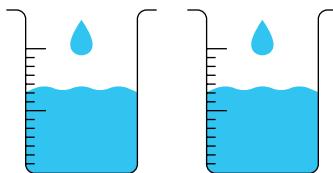
- 3 Close both bottles tightly and shake then very well



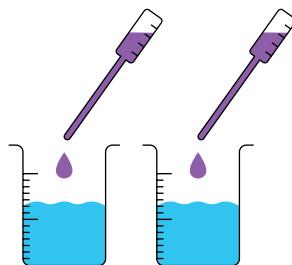
- 2 Use a Sodastream (or other CO₂-source) to fill Cabondioxide in one of the bottles



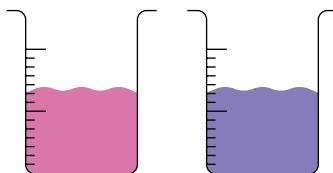
- 5 Put some water from each bottle into a small beaker or jar



- 6 Add a little red cabbage juice to the water (use a pipette or a spoon)



- 7 Can you observe a difference in color?
What causes the color change?
Which acid might have formed?



Annex 5: SPK Theatre Workshop

PART 1: Warm up (~10 min.)

The facilitator first explains the exercise: As a warm-up, the group is asked to walk around the room at a relaxed pace. Occasionally, the facilitator calls out a keyword and claps loudly. The keyword refers to a walking scenario, e.g., 'ice,' 'hot sand,' or 'storm.' As soon as the keyword is called, the participants change their gait to match the scenario.

PART 2: Theater sculpture exercise (~20 min.)

The aim is creatively bringing up perspectives on the topic of human-nature-relations in 3 rounds of making theater sculptures. The principle for the works/sentences is to go from general to the topic, and from specific word to abstract concepts.

Facilitator explains how the exercise works:

- We stand in a circle and turn around so that we are facing each other backwards.
- I say a word or sentence and I count 3,2,1. You turn around and freeze in a position that you associate with what I said.
- Just do what you feel like, there is no right or wrong.
- Are there any questions? Otherwise, we will start.

We tested the activity with the following words/sentences (but it can be adapted depending on the group of participants and the theme of the activity) for an easy entry:

- 1st round "no words, just sculptures" (5 min): the facilitator gives the following keywords:
 - the neighbourhood you live in
 - summer
 - Park
- 2nd round "tap to explain in 1 word": the facilitator taps on the shoulder of the participants and asks them for 1 word to explain their sculpture
 - How do you feel when you are outside in nature?
 - How do you feel about nature in cities?
 - How do you feel about human-nature-relations?
- 3rd round "group formation, discuss and share": the facilitator asks the participants to look around to find people who are doing similar things. Now, they have 2 minutes to discuss their sculpture. Afterwards, the discussion is summarized for the whole group.
 - What is inspiring for you from the indigenous perception of human-nature-relations?
 - What do you imagine urban farming will look like in the future / would you like it to be?
 - What would you do to protect nature?
 - How do you feel about climate change?

PART 3: Bas-Relief

First Statues on the wall/picture (bas-reliefs) about living in the city from different perspectives participants can think of: human, wild animals, insects, plants, nature elements like rivers, forests, in cold winter or hot summer, e.g. in densely or less densely populated neighborhoods – 10 minutes

- Participants stand on one side of the room, as spectators. On the other side there is an empty wall. One of the participants positions her/himself near the wall and creates a statue with her/his body. One by one, 3 to 4 participants are invited to quickly join the first one, one after the other, and create new statues that will complete the scene.
- The facilitator explains the principle. If needed (s)he can give an example by doing a statue

her-himself: You will create a collective sculpture with your bodies. One by one, you're going to walk onto the stage and freeze like a statue. Your statue will represent what is it, for you, to live in this neighborhood. You can use your body, face expression and gaze to express emotions. There is no right or wrong answer.

- Observations: This exercise can involve physical contact among the participants.
- Once the bas-relief is finished the statues keep their position and the facilitator will ask the spectators to find the title of the painting and then describe it as a guide in a museum: Imagine that this bas-relief is a famous work of art in a museum. What do you think its title could be?
- One possibility is to ask to people doing statues, what they represent or if they have complementary opinion about the title: One of you (spectators) is going to become a guide in a museum. Come, choose a title and describe the bas relief as if it was a famous art piece in a museum.
- After a couple of suggestions the facilitator asked the participants in the picture to tell a sentence about their pose (this part is not necessary as it can influence the description of the picture that will follow too much).
- After the description: Does any of the visitors have any questions about the art work?
-> Participants who created the statues are invited to answer the questions

Second Statues on the wall/picture (bas-reliefs) about **desirable and possible/feasible/realistic** future in 10 years' time, e.g. the desirable and possible neighborhoods of the participants in 10 years from now, thanks to (not only but also) the participants actions and engagement.

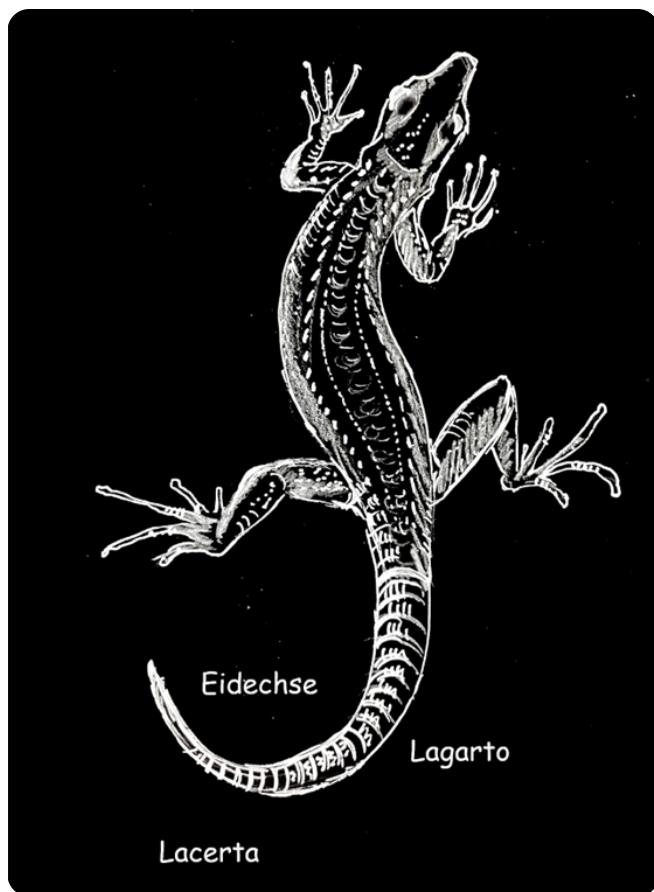
- The basic sequence repeats itself as in the first statues/picture/scenario

Note: for this kind of exercise, we wanted to open up imaginations about how a positive future can look like in a realistic way but in the next step also what participants really wish for which goes beyond the status they can imagine as realistic right now. Thus, we chose the time span of 10 years.

Third Statues on the wall/picture (bas-reliefs) about **primarily desirable** futures in 10 years' time, **regardless of how realistic their implementation would be**.

For example: the desirable neighbourhoods of the participants in 10 years from now, thanks to (not only but also) the participants actions and engagement. The basic sequence repeats itself as in the first stat

Annex 6: Animal profile cards



Super Regeneration – Super Legs – Super Sounds

Gecko / Lizard

Age: 8–20 years

Size: 2.5 to 40 cm including the tail

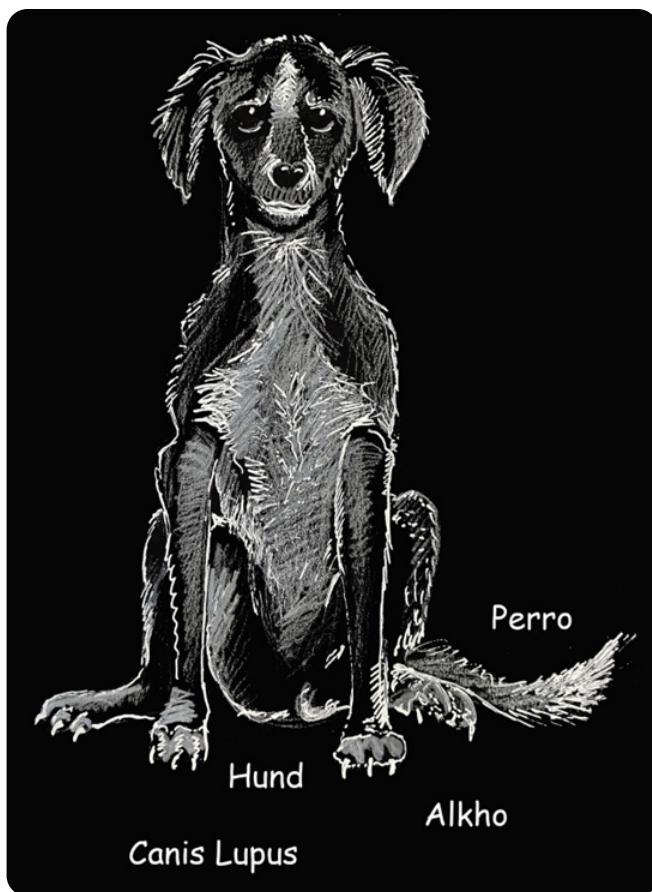
Enemies: Birds of prey, snakes and predators

A gecko eats snails, insects and spiders.

Geckos are cold-blooded.

Their body temperature depends on their environment. These shy reptiles have lived on Earth for at least 100 million years.

- When threatened, it can drop its tail, which grows back, but it won't be as long as before.
- With its feet, it can climb vertically up glass and even walk upside down on ceilings. Tiny hairs on the toes help it do that.
- Geckos communicate with sounds such as chirping, barking or clicking.



Super Friend – Super Nose – Super Hearing

Dog

Age: 10–13 years (or older)

Size: 18 to 86 cm shoulder height

A dog eats meat, roots, leaves, grasses and roots. Wolves became accustomed to humans about 10,000 years ago, and from this the domestic dog developed.

- A dog has an exceptionally good nose. It can have up to 300 million scent cells, which is why dogs are often used as tracking dogs. They can smell objects or people even from a distance of 20 km.
- A dog has excellent hearing. It hears lower, and especially much higher, tones than humans. Your dog can hear you even from 1 km away.
- A dog is one of the best friends of humans and helps them.

Annex 7: Instructions of the performative mapping

SPK6_PerformativeMapping-ByWalmeriRibeiro.pdf

Performative Mapping

Artistic proposal by Walmeri Ribeiro

Introduction

By discussing the effects of colonization, the over-exploitation of natural resources, the climate crisis, and the need to change contemporary modes of living, this performative practice proposes different ways of coexistence and co-creation between human and more-than-human entities, strengthening ethical-political and participatory approaches to making art. Based on the methodology developed in the projects of the Sensitive Territories Platform, some important questions guide this proposal:

1. How can we re-sensitize our bodies?
2. How can we create ways of living (not just surviving), of imagining and dreaming, while living amidst various crises?
3. How can we create a bodily engagement with the environment, making our bodies porous?
4. How does this practice present us with sensitive aspects of the territories, encouraging the emergence of questions that can only arise through embodied experience?
5. How can this practice connect us with our places, countries, and memories, creating a bond with where we are living now?

At this moment, I would like to invite you to carry out this performative experience in a place where you want to create connections in the city where you are currently living.

About the concept of “Porous Body”

A porous body is a way of being in the world. It is not an everyday, automatized body, nor is it simply a body in motion or transition. Rather, it is a body that seeks another self—a self that builds, connects, and creates zones of contamination and contagion without borders, without hierarchies between species. A porous body is an available body, permeable and in a state of full attention. It is a body capable of feeling, listening to, and absorbing (becoming body) micro-movements, micro-sounds, tactilities, and temporalities, as well as macro-movements and the larger context in which it exists. The porous body is, therefore, a state of being and acting in the world—a state of being in a poetics of otherness and the construction of other worlds. (RIBEIRO, 2021, p.57)

Performative Program

Take a deep breath.

Breathe in.

Breathe out.

Repeat three times.

Close your eyes.

Breathe for a few minutes.

Breathe in.

Breathe out.

When I breathe in, I open up space in my body...

When I breathe out, I realize that I am simply here and now...

This is a practice of being.

...

Notice the movement of your body.

Keep this movement going.

It will become deeper and slower.

Keep breathing for five minutes.

...

Open your eyes slowly and with care.

In silence, we will begin to walk.

Keep your breath active.

As you walk, focus on the movement of the air in your body.

Breathe in.

Breathe out.

...

Walk slowly.

As you walk, simply observe:

The things, the sounds, the smells, the movements—the little things.

Observe, feel, listen... take your time.

We are now making connections through movement.

Observe.

Feel.

Breathe.

Walk.

...

We will stop in three places along the river. I will be in front—when I stop, please stop and form a line.

In silence...

< First Stop >

Keep breathing and gaze into the water for a few minutes.

Breathe in.

Breathe out.

...

Walk again.

Hold your breath, hold your sensations—

Just stay here and now.

We are building a community, together.

Human and more-than-human beings living here and now.

< Second Stop >

Keep breathing and observe the water and the landscape for a few minutes.

First, take in the entire landscape with an open gaze (5 minutes).

Then, focus on just one point in the landscape.

Your body will find another body—just stay connected.

Memories from your home, your country, your river, your sea, your familiar landscapes and waters may arise (or not).

Just receive them and carry them with you.

...

Walk again.

Hold your breath, your sensations, your memories, your emotions—your connections.

< Third Stop >

Now we will enter this space. Take your time.

We'll do this action in pairs.

Each pair may choose one mat, in silence.

One person will lie down on the mat; the other may sit or stand.

In this action, we will share our memories.

The person standing will tell their partner their memories, images, sensations—anything they wish to share.

The person lying down simply receives.

Then, we will switch roles.

...

Now, together, we will translate our memories, personal images, sensations, and emotions onto this large sheet of paper.

You may draw, write, paint—express yourself freely in connection with this territory and your personal territory, your body-territory.

This is a practice of living in the present moment.

This is a practice of building body-territories and territory-bodies.

This is a practice of feeling, hearing, smelling, and creating a new way of connecting your body to the territory's body.

This is a practice of transforming our numb and desensitized bodies into sensitive ones—

Capable of noticing more-than-human actions, voices, and presences.

Thank you for being here.

With love,

Walmeri

Annex 8: Team Plant

TEAM PLANT – Alternative creative activity

Introduction

This action strengthens group thoughts. Participants should consider the diversity of wild herbs and promote creativity.

Process

The participants form four to eight small groups. The group finding can be done with themes such as different plants or various leaf types of the plants. Each team receives a sheet of paper and a pencil to create a collage from their group. The task is to create a poster that highlights the diversity of the plants. The participants are asked to consider the following questions: What do the plants look like? Where do they grow? How do they smell? The participants have 30 minutes to complete this task. Afterwards, each team presents their poster to the others. The other teams try to guess which plant is being described. Then, the presenting team reveals the name of the plant. At the end, all teams lay out their posters next to each other, creating a "Team Plant" and noting down the names of the plants on the paper.

A signal marks the start of the writing process for all groups. Each team begins with the description of their plant. The other participants listen and try to guess the names. Then, the next team presents their plant. This continues until all teams have presented their plants. The team that can identify the most plants by their descriptions wins.

Annex 9: Tierarten_Superkräfte



Ovis aries

вересові
вівці

Skudde / Heideschaf

**Oveja de
brezo**

Super
robust

Super
Maul

Super
Verdauung

Skudde / Heideschaf

Alter: 12 – 15 Jahre

Größe: 55 – 60 cm Höhe der Schulter

Feinde: Wolf, Hunde

Eine Skudde frisst Wiesenkräuter, Gräser und Gestrüpp. Skudden sind sehr klein und scheu. Sie gehören zu den ältesten Hausschafrassen und werden gerne für die Landschaftspflege eingesetzt.

- Skudden fühlen sich im Sommer und Winter im Freien wohl. Sie kommen mit extremen Wetterbedingungen und mageren Standorten sehr gut zurecht.
- Mit ihrer gespaltenen, beweglichen Oberlippe können Skudden sehr gut die Pflanzenteile auswählen, die sie besonders gern essen möchten.
- Skudden gehören wie alle Schafe zu den Wiederkäuern und haben vier Mägen in ihrem Verdauungssystem. Dadurch können sie sehr viele Nährstoffe aus den Pflanzen aufnehmen.



Vulpes vulpes

руда лисиця

Rotfuchs

Zorro rojo

Super
Gehör

Super
sportlich

Super
Anpassung

Rotfuchs

Alter: 6 – 12 Jahre

Größe: 40 cm Höhe der Schulter

Feinde: Mensch, Wolf, Adler

Der Rotfuchs gehört zur Familie der Hunde und ist der weltweit verbreitetste Wildhund. Er ist ein Allesfresser und Überlebenskünstler. In Berlin leben schätzungsweise bis zu 3.000 Rotfüchse.

- Seine Beute spürt der Rotfuchs vor allem mit seinem hervorragenden Geruchssinn und mit seinem Gehör auf. Seine Ohren kann er in fast alle Richtungen drehen.
- Er kann bis zu fünf Meter weit und zwei Meter hoch springen und bis zu 50 Kilometer pro Stunde schnell laufen.
- Der Rotfuchs ist sehr anpassungsfähig und kommt mit unterschiedlichen Lebensbedingungen zurecht. Er kann in Wäldern oder halboffenen Landschaften, aber auch in Städten und Siedlungsgebieten leben.



**Falco
tinnunculus**

пустельга

Turmfalke

Cernícalo



Turmfalke

Alter: 15 – 18 Jahre

Größe: 31 – 37 cm

Feinde: Uhu, Krähe, Marder, Mensch

Der Turmfalke ist ein recht auffälliger, mittelgroßer Greifvogel. Er nistet gerne in von Menschen geprägten Gebieten, z.B. auf Kirchtürmen. Er ist der häufigste Falke in Europa.

- Die Augen des Turmfalken sind außergewöhnlich gut. Sie können besonders scharf und schnell sehen und so auch fliegende Insekten aus großer Entfernung wahrnehmen. Die Netzhaut der Augen hat spezielle Sensoren, mit denen er ultraviolettes Licht erkennen kann. So kann er den frischen Urin von Mäusen orten und seine Beute gezielt jagen.
- Er ist für seinen Rüttelflug bekannt. Dabei nutzt er kräftige Flügelschläge, um mehrere Meter in der Luft zu „stehen“ und nach Beute Ausschau zu halten und sich dann darauf herabzustürzen.



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Epeorus cruciger

**Хіт повстяна
бджола**

Heide-Filzbiene

**Abeja de fieltro
de brezo**



Heide-Filzbiene

Alter: wenige Wochen bis ein Jahr

Größe: 6 – 8 mm

Feinde: Parasiten, Insektenfresser, Mensch

Die Heide-Filzbiene lebt in sandigen Gebieten und auf Heideflächen. Als Futterquelle liebt sie den Nektar von Heidekraut, Berg-Sandglöckchen und Hasenklee.

- Die Heide-Filzbiene gehört zu den sogenannten Kuckucksbienen. Sie baut kein eigenes Nest, sondern legt die Eier in die fertigen Brutkammern der Heidekraut-Seidenbiene. Die Larven der Filzbiene entwickeln sich schneller und fressen manchmal auch die Larven der Seidenbiene auf.
- Wenn eine Heide-Filzbiene schläft, beißt sie sich mit ihren Oberkiefern an einer Pflanze fest und hängt senkrecht oder waagerecht daran.



© Naturgucker / J. Podgorski

**Macroglossum
stellatarum**

колібрі яструбина
МОЛЬ

Taubenschwänzchen

**Polilla halcón
colibrí**

Super
Ausdauer

Super
Sinnesorgane

Super
Rüssel

Taubenschwänzchen

Alter: 3 – 4 Monate

Größe: 36 – 50 mm Flügelspannweite

Feinde: Spinnen, Insektenfresser, Parasiten, Mensch

Das Taubenschwänzchen ist eigentlich ein nachtaktiver Falter, ist aber auch tagsüber auf Nahrungssuche zu finden. Es lebt in offenen Geländen mit genügend nektarreichen Blüten.

- Das Taubenschwänzchen wird auch Kolibrifalter genannt, weil es genau wie der Vogel durch den sogenannten Schwirrflug wie ein Hubschrauber in der Luft stehen kann. Außerdem kann es in 14 Tagen bis zu 3000 Kilometer weit fliegen.
- Mit den Fühlern kann das Taubenschwänzchen riechen und sich orientieren. Die Augen können ultraviolettes Licht sehen und mit den Füßen können sie schmecken.
- Der Saugrüssel des Taubenschwänzchens ist gut 3 Zentimeter lang und kann so den Nektar aus tiefen Blüten saugen. Außerdem hat es dadurch genug Abstand zur Blüte und ist so vor Fressfeinden wie der Krabbenspinne geschützt.



Thomisus onustus

квітковий краб-павук

Blumenkrabbenspinne

Araña cangrejo de
flores



Blumenkrabbenspinne

Alter: 1 – 2 Monate

Größe: 7,0–9,8 mm (Weibchen), 2,0–3,6 mm (Männchen)

Feinde: Insektenfresser, Vögel

Die Blumenkrabbenspinne zählt zu den großen Krabbenspinnen, was jedoch nur für die Weibchen gilt. Diese sind deutlich größer als die Männchen. Sie lieben warme und trockene Standorte.

- Die Weibchen der Blumenkrabbenspinne können ihre Körperfarbe verändern und an die Blütenfarbe anpassen. Das ist eine perfekte Tarnung, um ihrer Beute aufzulauern.
- Ihre Beute besteht aus Insekten, die Blüten aufsuchen und oft viel größer sind als die Spinne selbst. Blitzschnell kann sie die Beute mit ihren starken Vorderbeinen schnappen und braucht daher kein Netz zum Fangen.

Annex 10: The speaking world

Il mondo che parla

Primo stop: "Ciao, io sono il Mondo, sistemi che si intrecciano. Acqua che cambia forma, aria che attraversa, calore che si sposta senza chiedere permesso. Non ho un centro e non ho un capo: funziono perché ogni parte si appoggia all'altra. Non sempre armonia, ma sempre relazione. Ma non si deve tirare troppo la corda. È complicato parlare con voi, così, faccia a faccia. Di solito correte, sempre di fretta, sempre altrove. Io, invece, resto. Vi osservo e vi vedo, siete stretti, in tanti, in uno spazio piccolissimo... e già vi guardate male, pronti a salvarvi a scapito di qualcun altro. Di solito fate tutto voi, parlate, correte, costruite... e io resto qui, sotto i vostri piedi, a farvi da tappeto. Senza lode, senza tregua. Certo, dite di amarmi, di rispettarmi, fate anche una magnifica "Giornata della Terra", una volta all'anno, con tanto di hashtag. Poi, il giorno dopo, mi riempite di plastica come fosse un biglietto d'amore".

Secondo stop: "Non vi rendete conto di quanto pesi il vostro passo. Ma va bene, non sono qui per lamentarmi. Non sono da scenate, anche se, ogni tanto, un terremoto, un'alluvione, uno tsunami mi scappano. Eppure... io vi ho dato tutto. Montagne per imparare a guardare in alto, mari per imparare a riflettere, alberi per educarvi alla pazienza. E voi? Avete imparato bene... a tagliare, a scavare, a prendere sempre di più.....ma non è la rabbia che mi consuma, è la febbre. Una febbre lenta, che scioglie i miei ghiacci come lacrime.

Una tosse di fumo e plastica che mi riempie i polmoni di città.

Ogni giorno mi stringo un po' di più, come un corpo che non trova aria.

E voi... voi mi guardate e dite: "Povero Mondo, si sta ammalando."

Come se non foste stati voi i medici distratti, quelli che prescrivono parole invece di cure. Ma non voglio accusarvi. No. Quello che fate non mi offende, non mi irrita. Gli insulti non mi toccano, le carezze non mi lusingano. Io rispondo ai movimenti, non alle intenzioni. Non servono muri, ma mani. Non serve paura, ma presenza. Non vi chiedo di salvarmi, vi chiedo di salvarvi con me. Perché io... io posso anche sopravvivere senza di voi, ma voi, senza di me, sareste solo un'eco nel vento".

Terzo stop: "Io vi ho insegnato tutto quello che so: il respiro del vento, la pazienza delle stagioni, la danza dell'acqua. Vi ho mostrato la bellezza e continuo a mostrarvela nonostante le vostre colate di cemento. Ma credo ancora in voi, sì, in voi. Con tutte le vostre contraddizioni, le vostre luci accese di notte, i vostri sogni stropicciati dai rumori. Mi interessa capire come vi muovete tra di voi. Il modo Perché il modo in cui vi cercate o vi dimenticate arriva fino a me come un cambio di pressione. Le vostre relazioni sono onde: piccole, grandi, disordinate, regolari. A volte si incontrano, a volte si cancellano. Non giudico nessuna di queste forme. Le registro. Le includo nel mio funzionamento. In fondo, io sono reti che si intrecciano: radici, correnti, migrazioni, pensieri. Quando una parte cambia ritmo, tutta la rete si assesta, anche se non si vede subito. Non è troppo tardi, non vi parlo per chiedervi salvezza, ma per ricordarvi che fate parte della mia rete, così come io faccio parte della vostra. Noi siamo relazione, ogni passo, anche il più piccolo, origina una mia trasformazione, ma finché respirate, io respiro, finché sognate io continuerò a fiorire. Io sono la Terra, e vi sto ancora aspettando".

The speaking world

First stop: "Hello. I am the World.

Systems woven together.

Water that changes shape, air that moves through everything, heat that travels without asking permission.

I have no centre and no leader: I work because every part leans on the others.

Not always harmony, but always relation.

But you shouldn't pull the rope too hard.

It's complicated to talk to you like this, face to face.

You're always running, always in a hurry, always elsewhere.

I, instead, stay.

I watch you.

I see you crowded together in the smallest space...

and already looking at each other with suspicion, ready to save yourselves at someone else's expense.

Usually you take over everything: you speak, you rush, you build...

and I remain here, under your feet, your floor, your background.

No praise, no rest.

Of course, you say you love me, that you respect me.

You even give me a magnificent "Earth Day" once a year, hashtag included.

And the next day, you fill me with plastic as if it were a love letter."

Second stop: "You don't realise how heavy your step is.

But it's alright; I'm not here to complain.

I'm not one for scenes, even if sometimes a quake, a flood, a tsunami slips out of me.

And yet... I gave you everything.

Mountains to learn how to look upward,

seas to learn how to reflect,

trees to teach you patience.

And you?

You learned quickly... how to cut, how to dig, how to take more and more.

But it isn't anger that consumes me.

It's fever.

A slow fever that melts my ice like tears.

A cough of smoke and plastic filling the lungs of my cities.

Every day I contract a little more, like a body that can't find air.

And you... you look at me and say,

'Poor World, it's getting sick.'

As if you weren't the distracted doctors,

the ones who prescribe words instead of cures.

But I don't want to accuse you.

No.

What you do doesn't offend me.

I am not irritated by your insults, nor flattered by your caresses.

I answer movements, not intentions.

I don't need walls, I need hands.

Not fear, but presence.
I'm not asking you to save me.
I'm asking you to save yourselves with me.
Because I... I can survive without you.
But you, without me, would be nothing but an echo in the wind."

Third stop: "I have taught you everything I know:
the breath of the wind,
the patience of seasons,
the dance of water.

I have shown you beauty,
and I keep showing it to you
despite your rivers of concrete.

But I still believe in you.

Yes, you.

With all your contradictions,
your lights left on at night,
your dreams wrinkled by noise.

I pay attention to how you move among one another.

Because the way you seek or forget each other reaches me like a shift in pressure.

Your relationships are waves:

small, large, disorderly, regular.

Sometimes they meet, sometimes they erase one another.

I judge none of these forms.

I record them.

I fold them into my functioning.

After all, I am networks woven together:

roots, currents, migrations, thoughts.

When one part changes rhythm,
the whole network adjusts,
even if it isn't visible right away.

It is not too late.

I don't speak to ask for salvation
but to remind you that you are part of my network,
just as I am part of yours.

We are relation.

Every step, even the smallest, reshapes me.

But as long as you breathe, I breathe.

As long as you dream, I will keep blooming.

I am the Earth.

And I am still waiting for you."

Partner Institutions

Museo Nazionale Scienza e Tecnologia Leonardo da Vinci (project coordinator)

Founded in 1953, MUST is the largest science museum in Italy and it brings together in one institution a collection-based museum and an interactive science centre.

The collection counts more than 15.000 historical objects, mostly displayed in permanent exhibitions, organised in five grand themes: Communication, Materials, Energy, Transport, Leonardo da Vinci.

In addition, MUST has 13 educational "Interactive Labs", dedicated to topics such as energy, biotechnologies, genetics, chemistry, nutrition, etc., where visitors can experiment science and technology directly through hands-on activities.

In 2009, the Education Department of MUST also launched CREI, the Centre for Research in Informal Education, which carries out methodological research aiming to identify and integrate innovative learning methods into MUST's work, in order to promote STEM learning and visitors' meaningful experience. Every year MUST welcomes more than 400.000 visitors.

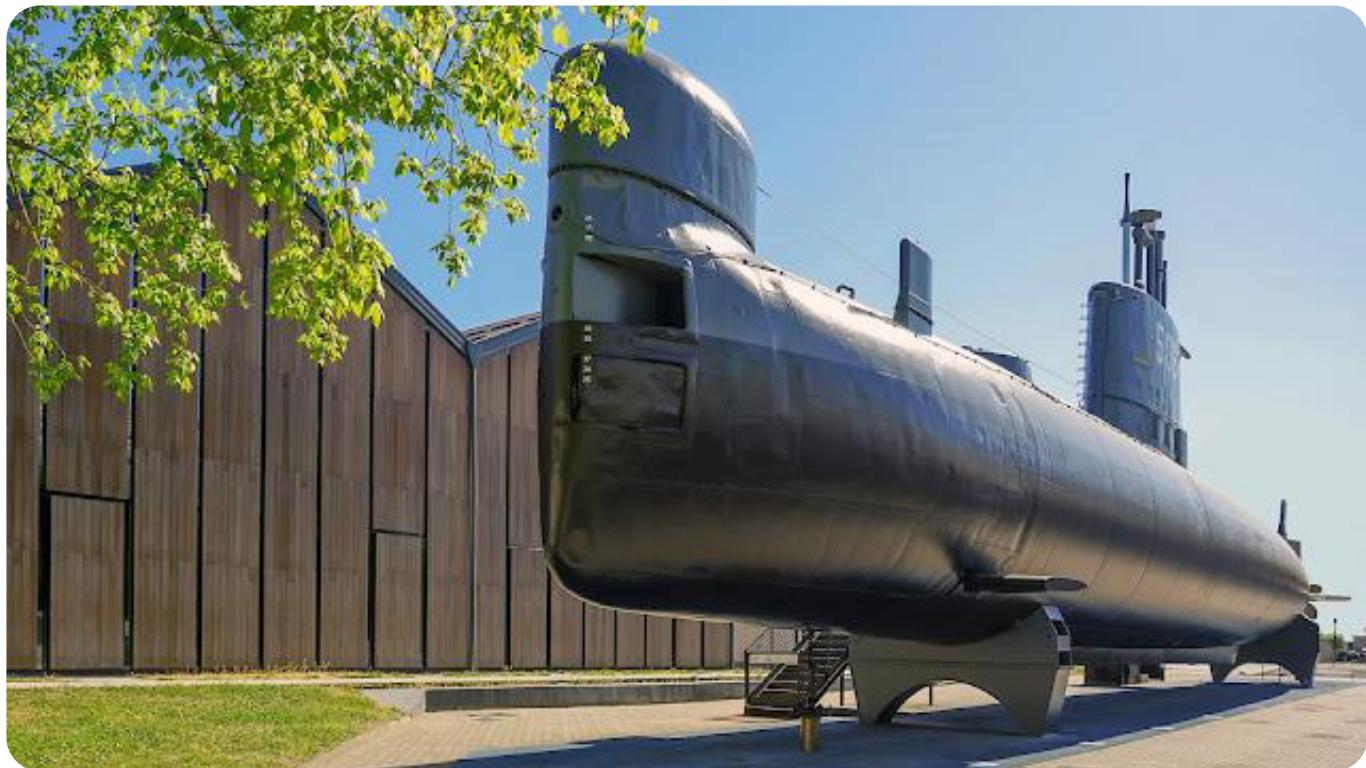


Photo: , Copyright: Museo Nazionale Scienza e Tecnologia Leonardo da Vinci

Universcience

Universcience is bringing together the Cité des sciences et de l'industrie, the Palais de la découverte, and since June 2021, the Étincelles, a temporary structure created to continue activities during the Palais de la découverte's renovation.

With 1000+ employees and 2.000.000+ visitors yearly in its physical venues, Universcience is the leading French public establishment for the dissemination of scientific culture. It provides the public with access to science through discovery and experimentation.

Values of innovation, ecological sustainability and critical thinking form the basis for its action. Developed in partnership with the scientific, teaching, artistic and industrial communities, its services extend beyond its locations in Paris to France's regions and the world.

They include exhibitions, events and festivals, conferences, children's areas, facilities that offer resources, advice and experimentation, as well as publishing and an online platform (leblob.fr). Universcience also leads the "Ecole de la médiation", a professional development centre for science explainers.



Photo: © EPPDCSI, Copyright: © EPPDCSI

Verein ScienceCenter-Netzwerk

The Association ScienceCenter-Netzwerk is a non-profit association based in Vienna, Austria founded in 2005. It is a competence hub for interactive science engagement and coordinates a nationwide network of science centers, institutions and professionals in the field, combines practice, research, networking and transfer.

Science engagement through hands-on and dialogue activities is at the core of its mission. The organisation initiates and manages innovative projects, using science-center activities to excite and empower people from various backgrounds. A strong focus on inclusion by hands-on and low-threshold activities has been established during recent years.

The association's network currently consists of about 200 partners from various fields, among them research organizations, science communicators, museums, teachers and educational institutions. ScienceCenter-Netzwerk has been involved in several trans-national, European projects and is an active member of ECSITE and EUSEA.



Photo: Thomas Suchanek, Copyright: ScienceCenter-Netzwerk

Ethnologisches Museum Berlin

The Ethnologisches Museum (Ethnological Museum) in Berlin evolved from the collections of the royal cabinets of art. Since its foundation in 1873, it has acquired one of the world's largest and most significant collections of its kind. The museum's collection includes approximately 500,000 ethnographic, archeological and historico-cultural objects from Africa, Asia, America and Oceania. They are complemented by around 500,000 media items (ethnological photographs, films, audio recordings) and about 200,000 pages of written documents.

Since 2022, the Ethnological Museum, together with the Museum für Asiatische Kunst (Asian Art Museum) and other institutions, has been presenting its collection in an innovative concept at the newly built Humboldt Forum in the very center of Berlin since 2022.



Photo: , Copyright: Ethnologisches Museum Berlin

Slovene Ethnographic Museum

The Slovene Ethnographic Museum (SEM) is the national museum of ethnology and anthropology in Slovenia. It was established in 1923 to preserve, study and interpret Slovene and global collections. It is a place of encounter and interaction for various audiences with the aim to promote knowledge and research of ethnological heritage. SEM connects heritage with current social issues and builds a bridge between the past and the future. It is the use of the collections and the knowledge they contain that forms the basis for thinking about possible alternatives for a more just and sustainable.



Photo: Blaž Verbič; Copyright: Slovene Ethnographic Museum

Authors

Dorothea Born – Project Management, Verein ScienceCenter-Netzwerk

Dorothea's enthusiasm for the environment led her to establish her first activist group already as a teenager. She holds a PhD in Science and Technology Studies and is an expert in the iconography of climate change pictures. She has worked and lectured in the fields of public engagement and research at various research institutions and universities. As project manager at SCN since 2024, she contributes her expertise on pictures and imagery, climate change, and emotional interactions of people with the topic to various science communication programmes, with a focus on interactive and creative design methods.

Sara Calcagnini - Head of Public Engagement, Museo Nazionale Scienza e Tecnologia Leonardo da Vinci

Sara Calcagnini has a degree in Conservation of Cultural Heritage at the University of Pisa. She is specialized in strategies of active involvement of citizens and stakeholders on scientific issues. Specifically, she works on the development of European and national educational programs of dialogue between experts and different audiences (families, adults, students, and teachers), science communication trainings for researchers, educators and teachers, and educational research on Public Engagement.

Fannie Le Floch - Trainer and project leader, Ecole de la médiation, Universcience

Fannie Le Floch started as science communicator at the Palais de la Découverte. She has developed a wide range of outreach projects — including educational videos, podcasts, interviews, and comics. Within the École de la médiation, she designs and leads training programs for professionals on science communication and facilitates awareness workshops that encourage collective reflection and action on sustainability issues.

Constantin Holmer – Project Assistant, Verein ScienceCenter-Netzwerk

Constantin Holmer is a sociologist and works at ScienceCenter-Netzwerk because he believes that together we can make science and technology more visible and perceptible. His interests are most prominently environmental and climate issues, their societal implications as well as engagements with various communities.

Sarah Klemisch, Ethnological Museum

Sarah Klemisch is curator for digital projects at "The Collaborative Museum" of the Ethnological Museum and the Asian Art Museum. She is also responsible for hybrid formats as well as media education projects. She has a background in developing media and exhibition projects at the intersection of curation, design and education, including those focusing on climate crisis and human-environment relations.

Johanna Koller, Verein ScienceCenter-Netzwerk

Johanna Koller is a trained teacher of English, Spanish, Biology and environmental education in secondary education. She also has a degree in microbiology and genetics. Through her work in various projects at ScienceCenter-Netzwerk she combines expertise in didactics with her interest in science engagement – focusing specifically on issues of language, gender and sustainability.

Nina Kramer – Project Assistant, Verein ScienceCenter-Netzwerk

Equipped with a background in Biology and in History and Philosophy of Science, Nina Kramer designs, organizes, and facilitates educational activities. Her work is driven by a curiosity about the relationships between science and society and a commitment to making science accessible to a broad audience. She feels most inspired when exchanging ideas and engaging hands-on with communities. Educational equity, inclusion, and process-oriented approaches are central to her practice.

Balduin Landl – Project Management, Verein ScienceCenter-Netzwerk

Balduin Landl achieved a Master Degree in environmental sciences and started to work occasionally as facilitator for various projects of ScienceCenter-Network already during his studies. Since 2020 he started to work as project assistant for SCN and since 2023 as project manager. His personal interest on global warming let him also develop a short podcast format on problems and solutions for this topic.

Katarina Nahtigal – Head of the Education Department, Slovene Ethnographic Museum

Katarina Nahtigal is the Head of the Education Department. She is responsible for developing education programs for children. She has extensive experience dealing with people with disabilities and is particularly interested in storytelling approaches to exploring heritage.

Catherine Oualian - Head of vocational training Ecole de la médiation, Universcience

After a PhD in neuroscience and training in science communication project management, Catherine Oualian worked as an explainer. She worked as a project manager and, afterwards, a director of a scientific communication association focused on social inclusion and public participation. Catherine Oualian then joined the training centre "Ecole de la médiation" lead by Universcience where she coordinates and conducts training for science explainers and scientists.

Tina Palaić - Lead of the Come Together project, Slovene Ethnographic Museum

Tina Palaić, PhD, is the Head of the Curatorial Department at the Slovene Ethnographic Museum. She has focused on working with communities, particularly socially disadvantaged and marginalized ones, to collaboratively explore a variety of heritage topics. Her research focuses on exploring non-European collections from the time of socialist Yugoslavia.

Fabrizio Stavola - Education Curator, Museo Nazionale Scienza e Tecnologia Leonardo da Vinci

Fabrizio Stavola is responsible for the interactive laboratories "Energy&Environment" and "Future Inventors" at the Museum. He takes care of the planning and realization of educational activities and training courses for teachers and researchers. He has a degree in Astronomy from the Alma Mater Studiorum - University of Bologna, and a Master in Applied Optics at the University of Padova.

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Editors

Inclusion, Environment, Science Education – Guiding Principles

Balduin Landl, Johanna Koller

Inclusion, Environment, Science Education - Training Guide

Catherine Oualian, Fannie Le Floch

Inclusion, Environment, Science Education – Activity Toolkit

Fabrizio Stavola, Sara Calcagnini

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E TECNOLOGIA
LEONARDO
DA VINCI**

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