Horizon Europe Project PLANET4B

ADJUSTED TRAINING MATERIALS FOR SECONDARY AND HIGHER EDUCATION




BETTER DECISIONS FOR BIODIVERSITY AND PEOPLE

PLANET4B

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List of abbreviations and acronyms

Acronym	Definition
CAC	The Climate Academy
CG	CzechGlobe – Global Change Research Institute of the Czech Academy of Sciences
CGE	Culture Goes Europe
CU	Coventry University
DC	Dadima's CIC.
ESSRG	Environmental Social Science Research Group
FiBL	Research Institute of Organic Agriculture
FUG	Forum Urban Gardening
GD	GoodIssue nonprofit Ltd.
GDPR	General Data Protection Regulation
IFZ	Interdisciplinary Research Centre for Technology, Work and Culture
MLU	Martin Luther University Halle-Wittenberg
NINA	Norwegian Institute for Nature Research
OOF	Oslo og Omland Frilfutsråd – Greater Oslo Council for Outdoor Recreation
PLANET4B	understanding Plural values, intersectionality, Leverage points, Attitudes, Norms, behaviour and social lEarning in Transformation for Biodiversity decision making
RU	Radboud University
TEHRA	The Environment and Human Rights Academy
UNEP-WCMC	UN Environment Programme World Conservation Monitoring Centre
UNIPI	University of Pisa
WP	Work Package

Table of Contents

Executive summary

- This deliverable presents the development and testing of the PLANET4B Biodiversity Engagement Course for Educators. By providing educators in secondary and higher education with transdisciplinary training and teaching materials on biodiversity and the biodiversity crisis, the Course aims to build educators' capacity to teach about these themes through systems thinking, intersectionality and creative and experiential learning, thereby inspiring students to take transformative action.
- The flexible, modular course builds on PLANET4B's frameworks, case studies and engagement methods.
- It offers online courses, activities and multilingual materials on the PLANET4B Care-full Courses digital platform.
- It supports transformative environmental education, contributes to learners' GreenComp competences, and has been tested in multiple contexts. There are twelve GreenComp competences, organised into four areas: embodying sustainability values, embracing complexity in sustainability, envisioning sustainable futures, and acting for sustainability.

1 Introduction

In this deliverable, we present the PLANET4B Biodiversity Engagement Course for Educators. The Biodiversity Engagement Course for Educators was developed by TEHRA[1] as part of the PLANET4B project (Tasks 5.5 and 5.4) and corresponds to the activity of creating *Adjusted training materials for secondary and higher education.* The Biodiversity Engagement Course for Educators draws on the project's theoretical frameworks, eleven case studies and engagement methods. The course is designed to equip educators with the knowledge, tools and confidence to engage students in exploring biodiversity and the biodiversity crisis through systems thinking and intersectionality, and to inspire transformative action.

This deliverable report outlines the rationale of the course content and structure, the intended learning outcomes, the method for developing the course, the timeline of the work, and the validation testing process.

2 Biodiversity Engagement Course for Educators: Overview

2.1 Focus and intention

The Biodiversity Engagement Course for Educators is a flexible, modular set of educational materials for educators and for students, including experiential learning and creative activities, designed to support teaching biodiversity and environmental education. It targets primarily secondary and higher education settings, with some resources that are suitable and/or suitable for adaptation for primary school education. The Course can be used in both formal settings (such as schools, universities, applied sciences and vocational training institutions) and non-formal settings (including educational NGOs, environmental NGOs, and youth organisations).

The Biodiversity Engagement Course for Educators helps educators build their confidence in teaching biodiversity and also saves time in lesson preparation. It also equips educators with practical tools for engaging students to think systemically and critically, and to take action to promote biodiversity. The educational materials for the Course are hosted by the PLANET4B Care-full Courses digital platform, as well as being fully downloadable for offline working. Additionally, the materials are available in four languages.

This educational resource is freely accessible and oriented towards contributing to transformative change (IPBES, 2024). It seeks to complement already existing educational resources on biodiversity which tend to focus solely on natural sciences facts or experiential learning about biodiversity. The Biodiversity Engagement Course for Educators builds on the most up-to-date biodiversity science by combining natural and social sciences insights about the state of biodiversity (IPBES, 2019), the multiple values of nature (IPBES, 2022) and the indirect drivers of biodiversity loss (IPBES, 2024). The Biodiversity Engagement Course for Educators combines these topics with PLANET4B thematic areas, including systems thinking and intersectionality, through a mix of theory, reflective and interactive activities, as well as experiential learning and creative methods developed in the PLANET4B project.

[1] TEHRA was previously known as CAC.

The Biodiversity Engagement Course for Educators can be used by any educator or facilitator who can dedicate at least two hours of their classroom teaching time to education about biodiversity, the biodiversity crisis, the drivers of the biodiversity crisis, and transformative change. These are topics which are deeply relevant to both the biodiversity crisis and to broader socio-ecological crises that we are facing and that young people have the right to know about, but which tend to receive less attention in environmental education compared to the topic of climate change.

The intended outcomes of the Biodiversity Engagement Course for Educators are as follows:

- To build educators' capacity and confidence to teach about biodiversity and the biodiversity crisis, by providing them with an online course for educators and student-facing educational materials that communicate the magnitude of the crisis and its root causes;
- To help educators enhance students' engagement and learning by providing educators with tested experiential learning and creative methods around biodiversity themes;
- To inspire educators and students to act for biodiversity, by providing educators and students with ideas for action adapted to secondary and higher education, and at three levels – intrapersonal, interpersonal and institutional;
- To save educators' lesson preparation time by providing them with teaching notes for two one-hour lessons with learning objectives, adjusted to the age range of their audience (secondary and higher education), and matching slide presentations;
- To increase accessibility of environmental education by providing educators with modular, transdisciplinary materials made available in multiple languages that are ready to be used in a wide variety of formal and non-formal educational settings;
- To contribute to fostering educators' and young people's GreenComp (Bianchi et al., 2022) competences, particularly those that tend to be less effectively addressed in environmental education, such as futures literacy and acting for sustainability (political agency and collective action beyond low-impact actions) (EC, 2024);
- To contribute to the knowledge, skills and attitudes needed for transformative change in biodiversity decision-making (IPBES, 2022) by introducing educators and young people to key IPBES concepts in accessible ways.

2.2 Course structure and content

This section starts by documenting how to access the Biodiversity Engagement Course for Educators online. Subsequently, an overview of the structure and content of the Course is provided.

Educators are invited to visit https://www.care-full-courses.com/ where they can select the Educators' course. This takes users to the Biodiversity Engagement Course for Educators.

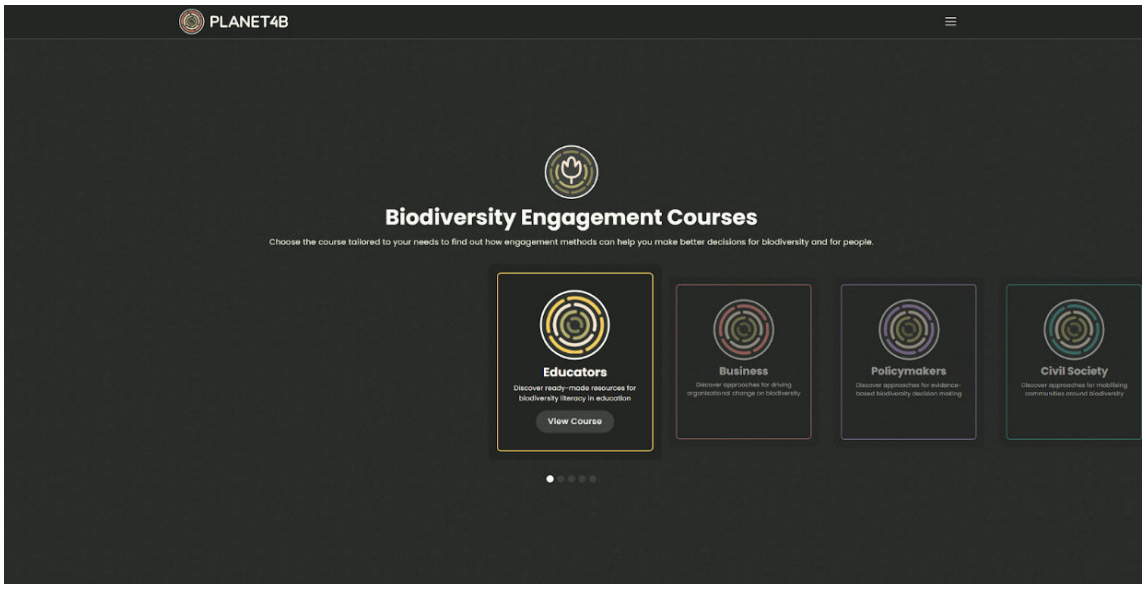


Figure 1. Overview of the Biodiversity Engagement Courses on the PLANET4B Care-full Courses digital platform. Source: PLANET4B Care-full Courses.

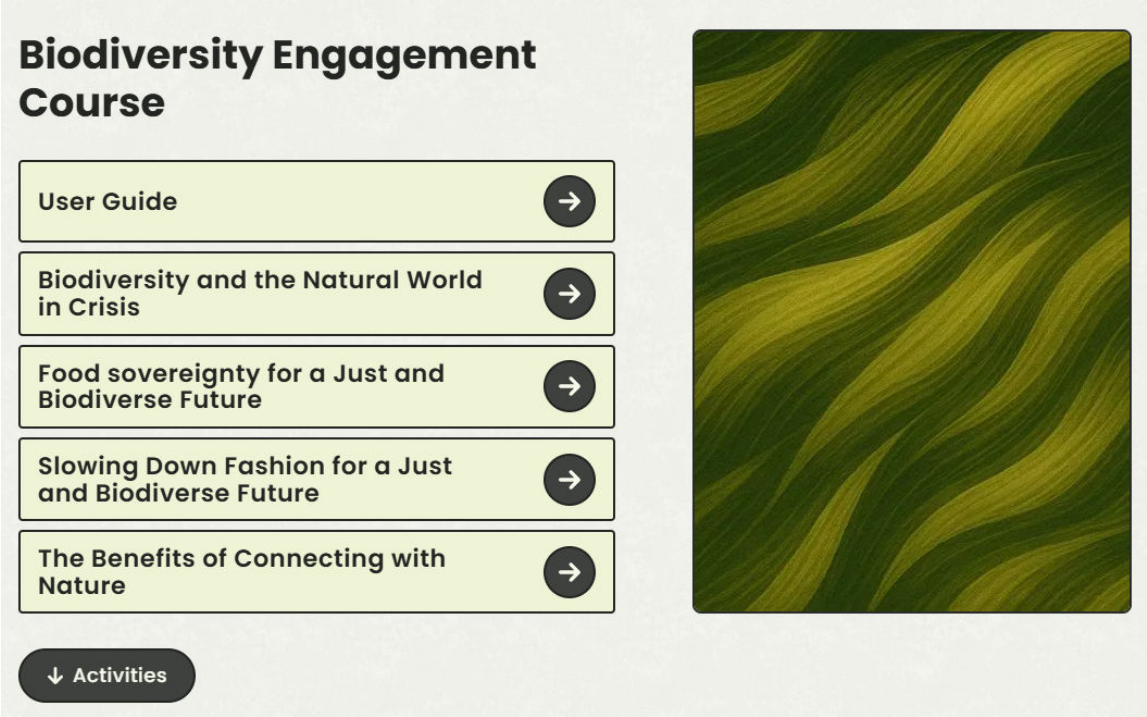


Figure 2. Overview of the Biodiversity Engagement Course for Educators on the PLANET4B Care-full Courses digital platform. Source: PLANET4B Biodiversity Engagement Course for Educators.

The Biodiversity Engagement Course for Educators starts with a *User Guide* section. We provide users with an overview of the Biodiversity Engagement Course structure and content, guidance on how to use the various learning and teaching materials, as well as an introduction to the PLANET4B project and its case studies. We also briefly outline the role that environmental education, and more specifically biodiversity education, can play to contribute to transformative change.

Within the *User Guide* we also provide TEHRA's generic email address for educators who want to use the materials but would like further support from our team to bring them to the classroom. This support is offered free of charge, within reasonable limits. Users who complete one or more online course(s) and deliver the corresponding lessons can reach out to the same TEHRA email address and receive a certificate from TEHRA, subject to filling in a feedback form. This is meant to incentivise educators to use the materials and report on their use, as well as recognise their achievements through a certificate that educators can add to their professional portfolio.

The Biodiversity Engagement Course includes four thematic modules:

- Biodiversity and the natural world in crisis;
- Food sovereignty for a just and biodiverse future;
- Slowing down fashion for a just and biodiverse future;
- The benefits of connecting with nature.

Each of the four thematic modules includes:

- An online course for educators hosted on the PLANET4B Care-full Courses digital platform (https://www.care-full-courses.com/);
- Downloadable teaching notes for two 1-hour lessons, available in two versions (for secondary and higher education), and in multiple languages (English, French, Portuguese and Romanian);
- Downloadable slide presentations for two 1-hour lessons, matching the abovementioned teaching notes, available in two versions (for secondary and higher education), and in multiple languages (English, French, Portuguese and Romanian);
- Engagement Activities with instructions, adapted from the 28 engagement methods used within the PLANET4B case studies (Franklin et al. (eds.), 2024), to be completed before, during, in-between or after the two 1-hour lessons (with decision on ordering at the discretion of the educator).

Under the four thematic modules, educators can find eight experiential learning or creative engagement Activities, adapted from the wider pool of 28 methods tested within the PLANET4B case studies (Franklin et al. (eds.), 2024), that can be combined with the four thematic modules. The eight engagement Activities are:

- Biodiversity Cookbook;
- Biodiversity in the Cupboard;
- Photovoice;
- Participatory Filmmaking;
- Mindfulness;
- Pathbreak Biodiversity JENGA®;
- Nature Hike;
- Debriefing.

3 Biodiversity Engagement Course for Educators: Rationale and Design

3.1 Rationale for the Biodiversity Engagement Course for Educators structure

TEHRA designed the Biodiversity Engagement Course for Educators with flexibility at its core, to ensure its usability. Through consultations with potential users, we found that teachers in secondary education – one of the core target audiences of the Course – are under pressure to deliver already heavy curricula in their specific subjects. Therefore, they are unable to allocate much time to anything 'extra'. Furthermore, when they try to deliver extracurricular materials outside of classroom time (e.g. during lunch breaks, or after school), they struggle to motivate students.

For this reason, the Biodiversity Engagement Course is highly modular by design, so that (if required) teachers can deliver parts of it during a combination of classroom time and school events dedicated to environmental or civic education. For example, the two-hour lessons could be delivered during classroom time, whilst corresponding engagement Activities that take longer than two hours, such as Photovoice or Nature Hike, could be implemented during school time allocated to extracurricular activities, such as the Biodiversity Day, or in preparation for a school arts festival.

The first thematic module, Biodiversity and the natural world in crisis, serves as a foundation for the other three thematic modules, and is therefore mandatory. Each module's teaching notes have been designed for two one-hour lessons (plus extra time for engagement Activities that take longer). This has been done to minimise the time pressure on subject-specific curricula, whilst allowing sufficient time for students to gain an introductory grasp of key concepts and insights that will help them make the most of the experiential learning or creative engagement Activities.

Once they deliver the foundational Biodiversity and the natural world in crisis module, depending on the time that they have, educators can choose to deliver all the other three thematic modules, or select some of them with their students. Educators can also collaborate with their colleagues to share the delivery of the modules and spread the time needed for delivery across several disciplines. As they are transdisciplinary, we expect most teachers to be able to make connections with their subjects.

The number of engagement Activities has been limited to eight to provide busy educators with a well-curated, yet diverse range of creative or experiential learning activities that can be combined easily with the four thematic modules. This selection responds to educators' accessibility needs and helps to foster students' engagement and learning.

One of the main criteria to select eight engagement Activities (from the wider pool of 28 engagement methods used within the PLANET4B case studies) has been that they could be combined with more than one module. For example, the Debriefing activity is recommended after each of the modules, to help students process and make sense of their emotions and thoughts, and cement learning. Photovoice and Participatory Filmmaking are recommended after at least two modules have been completed, when students have acquired a foundational knowledge of biodiversity issues,

intersectionality and systems thinking. Pathbreak Biodiversity JENGA® is an excellent activity to make the concept of ecosystem collapse tangible to young people, and engage their emotions and sense of collaboration. Nature Hike and Mindfulness can be paired up with the Biodiversity and the natural world in crisis module, or with The benefits of connecting with nature module, giving young people the opportunity to pause, spend time in nature and observe the wonders of the natural world.

The other criteria to select the eight engagement Activities have been as follows:

- Minimal preparation for educators in terms of knowledge, skills and materials needed;
- Low cost;
- High potential for impact, at intrapersonal, interpersonal and/or institutional levels.

Overall, our aim was to create a suite of accessible experiential learning or creative Activities that engage students and contribute to their learning in diverse ways. Debriefing most often takes the format of reflexive discussion. Participatory filmmaking and Photovoice engage students' creativity and storytelling skills, and equip them with tools for advocacy. Advocacy is also suggested as an idea for action after the Biodiversity Engagement Course, across modules. Mindfulness and Nature Hike bring young people outdoors. Biodiversity Cookbook brings students to rediscover neglected food recipes and plant varieties through intergenerational interviewing, research, writing and editing. Pathbreak Biodiversity JENGA® is a pedagogical game that gives young people the opportunity to play and collaborate with their peers, whilst learning about ecosystem collapse.

To make the engagement Activities as accessible as possible for educators, we have adapted the selected PLANET4B methods to younger audiences. We have provided educators with detailed instructions on how to implement the different Activities, as well as options to adapt them to the time and budget they have. For each engagement Activity, we include the following:

- Overview of the activity;
- Learning objectives;
- Links with the other educational resources in the Biodiversity Engagement Course and duration;
- Introduction;
- Materials;
- Pre-lesson preparation;
- Activity plan / activity instructions;
- Debrief.

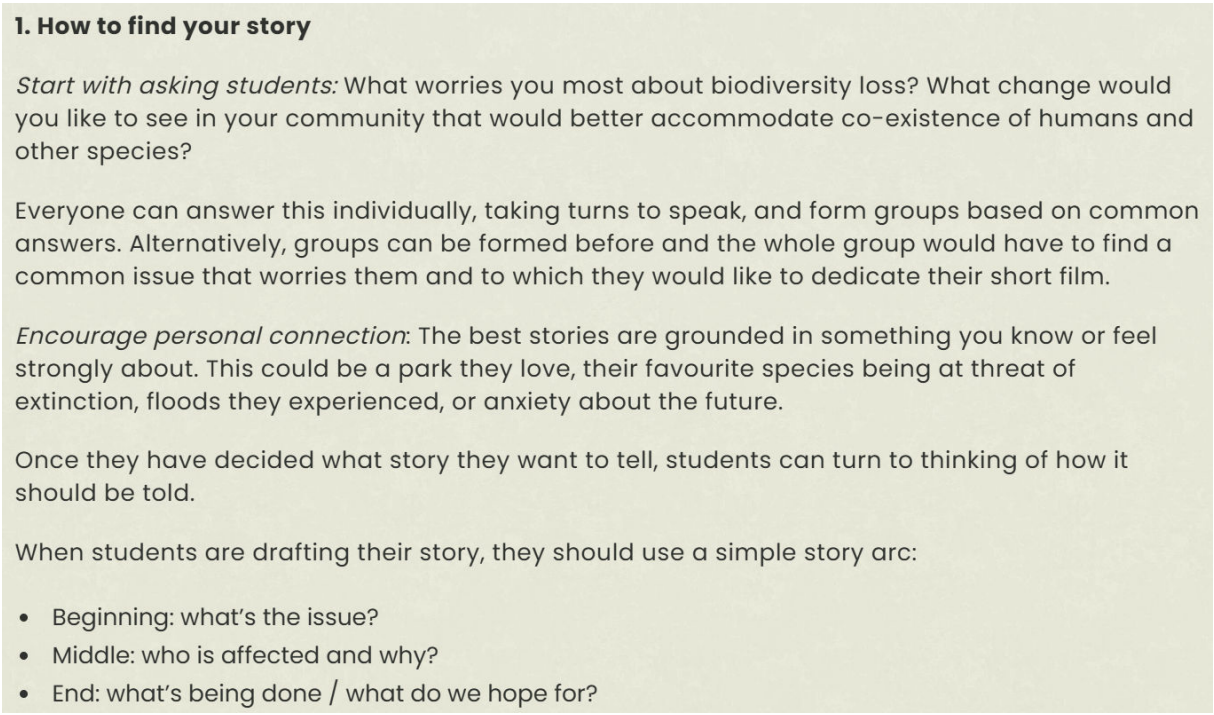


Figure 3. Instructions for educators to support students find their stories for the Participatory Filmmaking Activity. Source: PLANET4B Biodiversity Engagement Course for Educators.

The online courses for educators are broken down into lessons, each including learning objectives for educators, as illustrated in Figure 4 below:

Figure 4. Learning objectives from 'Lesson 1 – Why biodiversity matters: meaning and values', in the *Biodiversity and the natural world in crisis* online course for educators. Source: PLANET4B Biodiversity Engagement Course for Educators.

As an accompaniment to the course material, educators are also able to access teaching notes and matching slide presentations in two versions, adjusted for the age range of the audience. One version is for 14–18-year-old learners (corresponding to secondary education), the other version is for 18+-year-old learners (corresponding to higher education).

The teaching notes are written in an oral style, suitable for classroom delivery. They follow the slide presentations slide-by-slide. There is an indication of the recommended time an educator should spend on each slide, to keep each lesson within a one-hour timeslot. However, where there is capacity or opportunity to do so, each lesson can be expanded to longer than an hour by allocating more time to each of the discussion prompts, which would only improve students' learning outcomes.

Educators can use the teaching notes as a script for delivering the lessons, or as a foundation to which they can add details from the online course for educators. Educators are also encouraged to adapt the style of the lesson delivery to their own, and to their audience. Experienced educators can choose to deliver the lessons in their own way, based on the online course for educators. In this case, the slide presentations can serve as a structure for the lessons.

Should educators feel that their group is more advanced than the level proposed by the teaching notes, they can either use the higher education version with secondary education students, or the online course for educators with higher education students. Some of the modules also include suggested readings and videos, for students who want to further explore the topics covered in the modules.

Visually engaging slide presentations are deemed essential by educators to maintain students' attention and engagement, but also to support learning on complex topics.

As part of the process of developing the course material, TEHRA worked with a graphic designer to create visually attractive graphic illustrations of key concepts and ideas within the Biodiversity Engagement Course. These illustrations can draw students' attention and make abstract elements more concrete, and therefore easier to grasp and remember, as illustrated in Figures 5–7 below.

Figure 5. Illustration of the leverage points seesaw metaphor, inspired by Soliev et al., 2025; IPBES, 2022; Abson et al., 2017; Meadows, 1999. Source: PLANET4B Biodiversity Engagement Course for Educators.

Figure 6. Illustration of two women freely exchanging seeds in a biodiverse garden. Source: PLANET4B Biodiversity Engagement Course for Educators.

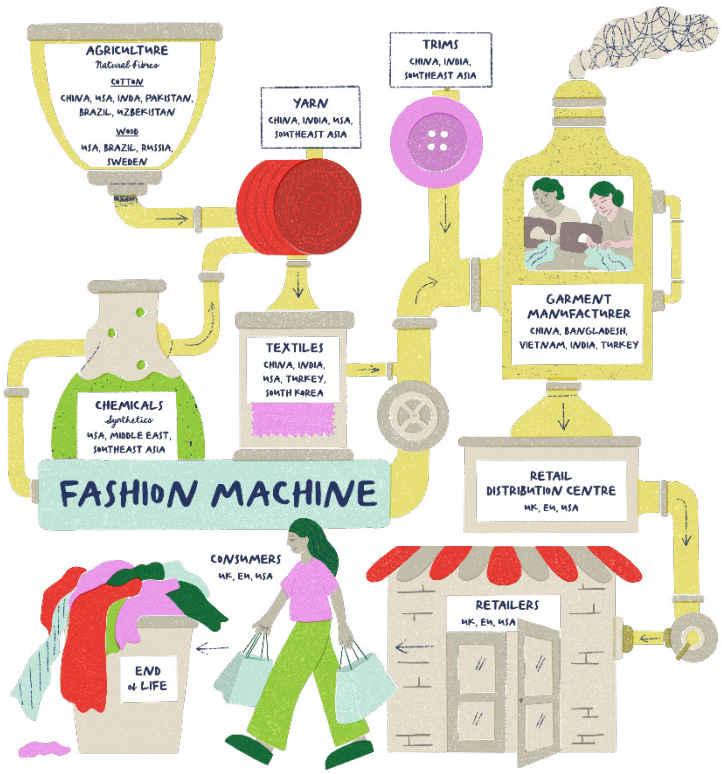


Figure 7. Illustration of the global fashion industry, inspired by Niinimäki et al., 2020. Source: PLANET4B Biodiversity Engagement Course for Educators.

Providing educators with ready-to-use teaching notes and slide presentations seeks to respond to educators' need of saving time on lesson preparation, and feeling supported when teaching topics that may feel out of their comfort zone.

The teaching notes and accompanying slide presentations are available in four languages – English, French, Portuguese and Romanian. Educators can also use their browser settings to translate the online course for educators into their own language.

The materials that are ready-to-use in the classroom have been translated to expand their use beyond schools where English is commonly used – which, outside of countries with English as a first language, tend to be private schools. Schools whose languages are not represented can use the materials during foreign language classes (English or French). The selected languages can also facilitate the use of the materials beyond Europe, as English, French and Portuguese are widely used languages. Romanian has been selected due to internal capacities in this area in the TEHRA team, and based on consulting with a leading environmental education association in Romania. They have highlighted the need for materials in Romanian that are ready-to-use by teachers, for example in the context of environmental education school events made mandatory by national policy.

3.2 Rationale for the Biodiversity Engagement Course for Educators content

The themes of the four thematic modules have been developed based on key themes addressed by the PLANET4B project, including through its eleven case studies. These themes are highly relevant to explain the biodiversity crisis and its direct and indirect drivers. They are directly relevant and of interest for young people.

The themes of the four thematic modules combine themes and insights from the PLANET4B case studies as follows:

- Module on Biodiversity and the natural world in crisis
    - Case study on Environmental awareness raising in education (Hungary)
- Module on Food sovereignty for a just and biodiverse future
    - Case study on Trade and global value chains (Brazil – EU/Netherlands)
    - Case study on Agriculture and migration (EU)
    - Case study on Agrobiodiversity management (Hungary)
    - Case study on City food for biodiversity and inclusion (Austria)
- Module on Slowing down fashion for a just and biodiverse future
    - Case study on the Fashion system from “egosystem to ecosystem” (Italy)
- Module on The benefits of connecting with nature
    - Case study on Enabling intersectional nature recreation and biodiversity stewardship for urban resilience (Norway)
    - Case study on Swiss attitudes towards agriculture biodiversity (Switzerland)
    - Case study on Opening nature and the outdoors to Black, Asian and ethnic minority communities (Central England, UK)
    - Case study on Urban youth, intersectionality, and nature (Germany)

The *Biodiversity and the natural world in crisis* module seeks to provide an introduction to biodiversity, nature, the ways in which these are defined and valued, and how these meanings and valuations impact environmental governance; the biodiversity crisis and its uneven impacts, its direct and indirect drivers; intersectionality, systems change and the role of education in transformative change, and also, ideas for action at intrapersonal, interpersonal and institutional levels.

The next two modules – *Food sovereignty for a just and biodiverse future* and *Slowing down fashion for a just and biodiverse future* – look at two highly globalised systems that are among the main drivers of the biodiversity crisis. Both fashion and food relate

to products that any young European person can relate to as consumers, but perhaps less as citizens who are aware of the global journey that many of these products go through before landing on our plates or in our wardrobes, or the impact that this journey has on biodiversity and people. These two modules also introduce students to different ways of organising these systems that they may be less familiar with and invite them to imagine what future sustainable food or fashion systems could look like.

Finally, *The benefits of connecting with nature* module highlights the importance of reviving human-nature connection and include socio-cultural valuations of nature in environmental governance to address the environmental crises. The module promotes the many benefits that connecting with nature, and even more so biodiverse nature, brings us. The module highlights that importantly, not everyone has equal access to nature and its benefits. It is therefore crucial to advocate for and work towards systemic change that addresses the exclusion of marginalised groups from access to nature and its benefits, as has been done in the PLANET4B intensive case studies.

The teaching notes corresponding to each module touch upon most of the topics of the online courses for educators, in a language and level of complexity that are adjusted to secondary or higher education.

Each module combines research distilled for a non-academic audience, with activities that engage learners' systems and critical thinking, future literacy skills, as well as emotions. To illustrate the combination of theoretical sections with reflective activities, the *Biodiversity and the natural world in crisis* module sees learners read about anthropocentrism, the way it has shaped Western thought, practices and structures, as well as alternative Indigenous and traditional worldviews (ecocentrism or biocentrism). Learners are invited to watch a video on these themes, then to journal their thoughts and emotions – prompted by a few questions that feed also into the next section on the links between economic growth and biodiversity loss.

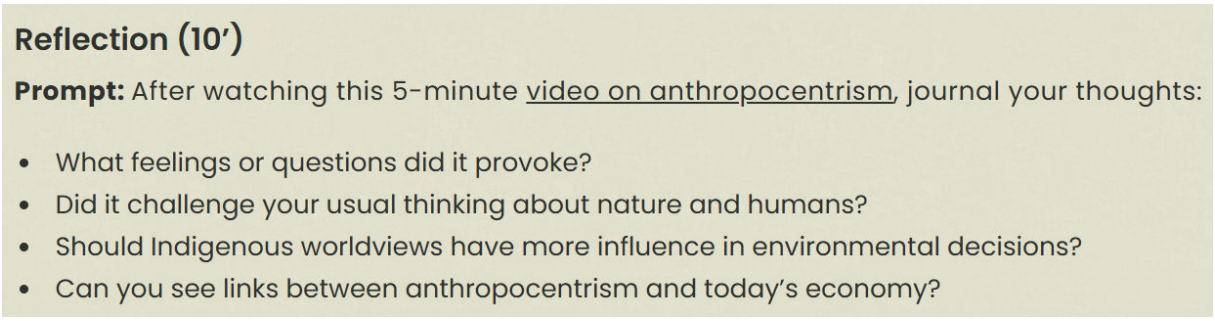


Figure 8. Overview of a reflexive activity on anthropocentrism, from the *Biodiversity and the natural world in crisis* module. Source: PLANET4B Biodiversity Engagement Course for Educators; and video from BBC Ideas and The Open University, 2020.

The Biodiversity Engagement Course for Educators seeks to foster human-nature (re-)connection. Accordingly, the course starts with watching an informative and awe-inspiring video about the importance of biodiversity, produced by The Royal Society and narrated by Sir David Attenborough (The Royal Society, 2021). Learners are invited to imagine themselves in their favourite biodiverse, natural place, and notice how this makes them feel, what memories they associate with it, who else this place is important to, and how they would like to see this place cared for and protected. The aim of this reflective exercise is to introduce learners to the Biodiversity Engagement

Course from a place of awe and (incipient) recognition of the importance of and humans' deep connection with nonhuman nature. More concretely, the aim is to slowly (re-)activate educators' attachment to biodiversity and nature, and their sense of empathy and solidarity with other people, and other forms of being – animals and plants – who also depend on nature for their physical and/or cultural experiences.

After the first module on *Biodiversity*, or in the context of *The benefits of connecting with nature* module, educators and young people are encouraged and provided with instructions to go on a Nature Hike, which helps people connect with nature and experience its many benefits (for a detailed overview of each of the four thematic modules and their lesson structure, see the Annex, below).

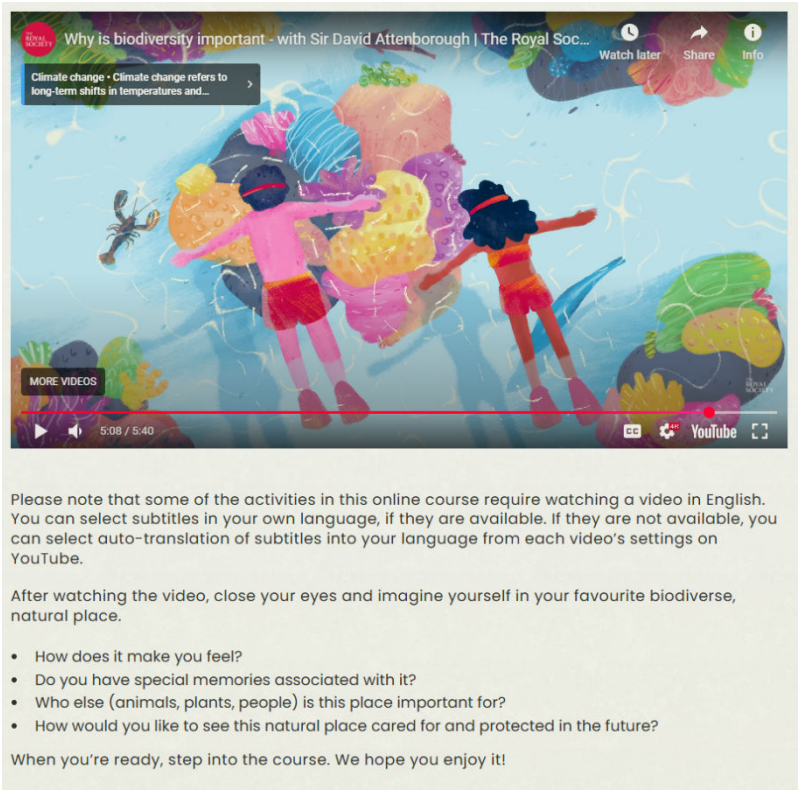


Figure 9. Overview of a reflexive activity on one's intrapersonal relationship with nature, from the *Biodiversity and the natural world in crisis* module. Source: PLANET4B Biodiversity Engagement Course for Educators; and video from The Royal Society, 2021.

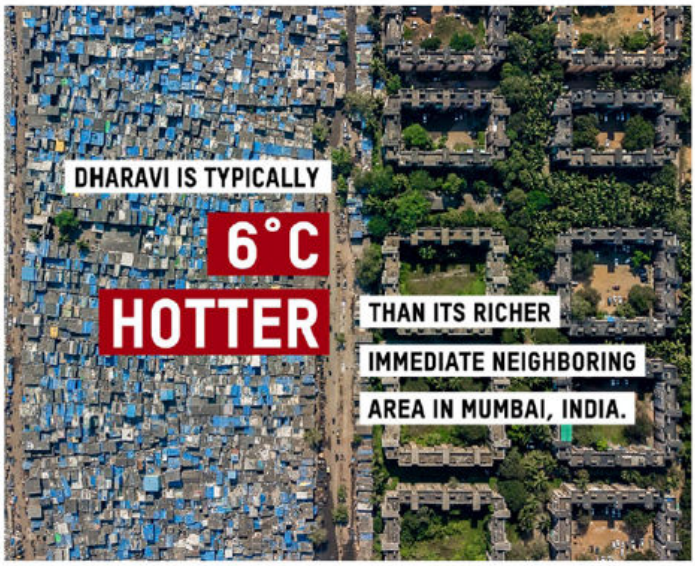
Intersectionality and systems change, two of the key theoretical frameworks that underpin the PLANET4B project, are embedded throughout the Biodiversity Engagement Course for Educators.

Intersectionality is introduced in the mandatory module on *Biodiversity and the natural world in crisis*, directly in the online course for educators and in the teaching notes for higher education, and indirectly, through an activity, in the teaching notes for secondary education. All modules refer to and promote justice as an integral component to action for biodiversity, as suggested by IPBES (2022). Figures 10 and 11 below provide two examples of activities related to the concepts of intersectionality and justice.

Slide 9: Activity – How is access to nature experienced differently within the same city? (10')

Let's zoom in from the global to the local level. The following image compares two neighbourhoods situated next to each other, in Mumbai, India.

India is one of the countries with high degrees of biodiversity destruction, and low levels of average wealth. But as you can see below, not everyone in India experiences this situation in the same way.



The area surrounding the Bandra Kurla complex in Mumbai is a mixture of extreme wealth and extreme poverty.[235] © Johnny Miller/Unequal Scenes

Source: Oxfam International, 2023. © Johhny Miller / Unequal Scenes

Ask students (2'):

- What is different between the two neighbourhoods? Which one seems healthier to live in, and why?
- What ecosystem services is the greenery providing in the richer neighbourhood (e.g., cooling, shade, clean air, wellbeing)?

Further explain: In many households in India, women often take on most of the cooking. This example is from India, but it reflects a common pattern across the world, including in urban areas in the Global North. Imagine living in a poor neighbourhood such as the one shown in the image, during a 40°C heatwave, in a home without proper ventilation.

Ask students (5'):

- How might it feel to cook under these conditions?
- How might this experience be different for a woman in the richer neighbourhood, where the temperature is in the high 30°C, or 40°C but air conditioning or electric stoves may be available?
- How do you think each of these women's experiences might differ from men in the same households who do not cook?
- What markers of identity are present in the case of the women living in the poorer area, and influence their experience of lack of biodiversity? Select from the following: Race/ethnicity, age, gender, sexual orientation, ability, geography (geographical position of the country, rural/urban area), wealth, religion, education level, migration status
- Think of groups in your country or community. Who might feel biodiversity loss or lack of access to nature more strongly, and why?

Figure 10. Overview of an interactive activity on unequal access to nature and intersectionality, from the *Biodiversity and the natural world in crisis* teaching notes for higher education. Source: PLANET4B Biodiversity Engagement Course for Educators; and photo from Oxfam International, 2023 / © Johnny Miller / Unequal Scenes.

Slide 9: Activity - Fashion waste, out of sight, out of mind (18')

Prompt: *Project this 13-minute video The final resting place of your cast-off clothing.*

Ask students (5'):

- What surprised you in this video?
- Why are so many clothes discarded in Western countries, **according to the women in the video**?
- Why do **you** think so many clothes in Western countries are discarded? And why are they transported to other countries, if they are used in the West?
- Is there anything you think you should change in your habits after watching this video?

Figure 11. Overview of an activity on fashion waste in the fashion global supply chain, from the *Slowing down fashion for a just and biodiverse future* teaching notes. Source: PLANET4B Biodiversity Engagement Course for Educators; and video from Aeon Video, 2016.

Systems change is introduced in the initial, mandatory module on *Biodiversity and the natural world in crisis*, through the concept of leverage points. Below is an example of how the deep leverage points for biodiversity outlined by IPBES (2022) are adapted to

a secondary school audience, after introducing the concept of deep leverage points through the seesaw metaphor (illustration from Figure 5).

IPBES (2022), the global science-policy group on biodiversity, identified several deep leverage points to protect biodiversity. We need to activate all these leverage points to change the system. Let's explore a few.

Slide 8: Deep leverage points for biodiversity (5')

Redefining the 'good life'

Right now, for many young people of your age, individual success may be measured by the school you go to, how much pocket money you spend, the marks you get, whether you have the most up-to-date phone, or if you go on holidays far away. And social media might play a big role in shaping what you aspire to as 'the good life'.

But what if the good life meant more free time for hobbies, friends and family, less pressure to 'succeed', better food, clean air, access to nature, living in a more equal society?

Wellbeing doesn't require endless consumption and economic growth. Showing this to people can inspire more sustainable lifestyles and shift what society values away from economic growth (which harms biodiversity).

Changing values and behaviours

Whether and how we appreciate nature can influence our behaviour. That is why, for long-lasting change, it is crucial to bring people to value nature and biodiversity through education, stories and cultural transformation.

Changing the rules of the game

We also need to change how decisions are made. Right now, biodiversity is rarely prioritised when planning cities, farming, or building infrastructure. There is also little or no real accountability when economic activity harms biodiversity.

What if we had rules that said: no decision can be made unless it protects biodiversity and ecosystems, and includes local communities in a meaningful way?

Justice and inclusivity

A just approach means recognising that people experience biodiversity loss differently, based on (a combination of) their gender, race, income, or location, and so on.

Indigenous communities, for example, manage a quarter of the world's land, including many of the most biodiverse places (IPBES, 2019). But their rights are often ignored. Justice isn't separate from environmental action, it's part of it.

Figure 12. Overview of the adaptation of the deep leverage points for biodiversity (IPBES, 2022) to a secondary school audience, from the *Biodiversity and the natural world in crisis* teaching notes for secondary education. Source: PLANET4B Biodiversity Engagement Course for Educators.

As noted earlier, the Biodiversity Engagement Course for Educators is inspired by the role that systems- and intersectionality-informed environmental education can play in transformative change. We need to foster new views and build new practices and structures that ensure biodiversity protection and people's wellbeing (IPBES, 2024).

Education can help foster a different type of relationship with each other and with nature, founded on interconnectedness rather than on separation and domination. Education about biodiversity can bring to the forefront the socio-cultural benefits of nature, and Indigenous and traditional knowledge, to complement biophysical and monetary valuation approaches as well as modern scientific research in environmental governance, for more equitable and sustainable environmental futures (Pascual et al., 2023).

For example, the module on *Food sovereignty for a just and biodiverse future* introduces young people to Indigenous and traditional practices and their benefits, such as the Native American practice of companion planting known as the 'Three Sisters', and the traditional Chinese rice-duck-fish farming practice. Both practices work with nature, rather than against it.

Educators and learners are also introduced to inspiring alternative worldviews centred around interconnectedness, such as the African concept of *ubuntu*. After learning about this philosophy, learners are prompted to reflect on how this alternative worldview might inspire more communal and sustainable ways of living and of feeding ourselves.

Figure 13. Overview of an interactive activity introducing higher education students to the African concept of ubuntu, from the *Food sovereignty for a just and biodiverse food system* slides accompanying the teaching notes for higher education. Source: PLANET4B Biodiversity Engagement Course for Educators; and video from BBC Global, 2022.

Just as importantly, education about biodiversity can point to the practices and structures that are impeding transformative change, such as concentration of power and wealth, short-termism and consumerism (IPBES, 2024). The Biodiversity Engagement Course for Educators seeks to introduce educators and learners, in accordance with their educational level, to the idea that people have the agency to change current systems driving overproduction and overconsumption, for more

equitable and sustainable outcomes for people and biodiversity. The video included in Figure 14 below (created by RU as part of PLANET4B) seeks to provide educators with inspiration on the role that education can play for transformative change. The video about the Pacific Students Fighting Climate Change initiative to bring climate action before the International Court of Justice (included in Figure 15 below) seeks to show young people that transformative action to protect people and nature is possible, when we work together to bring bold ideas to life.

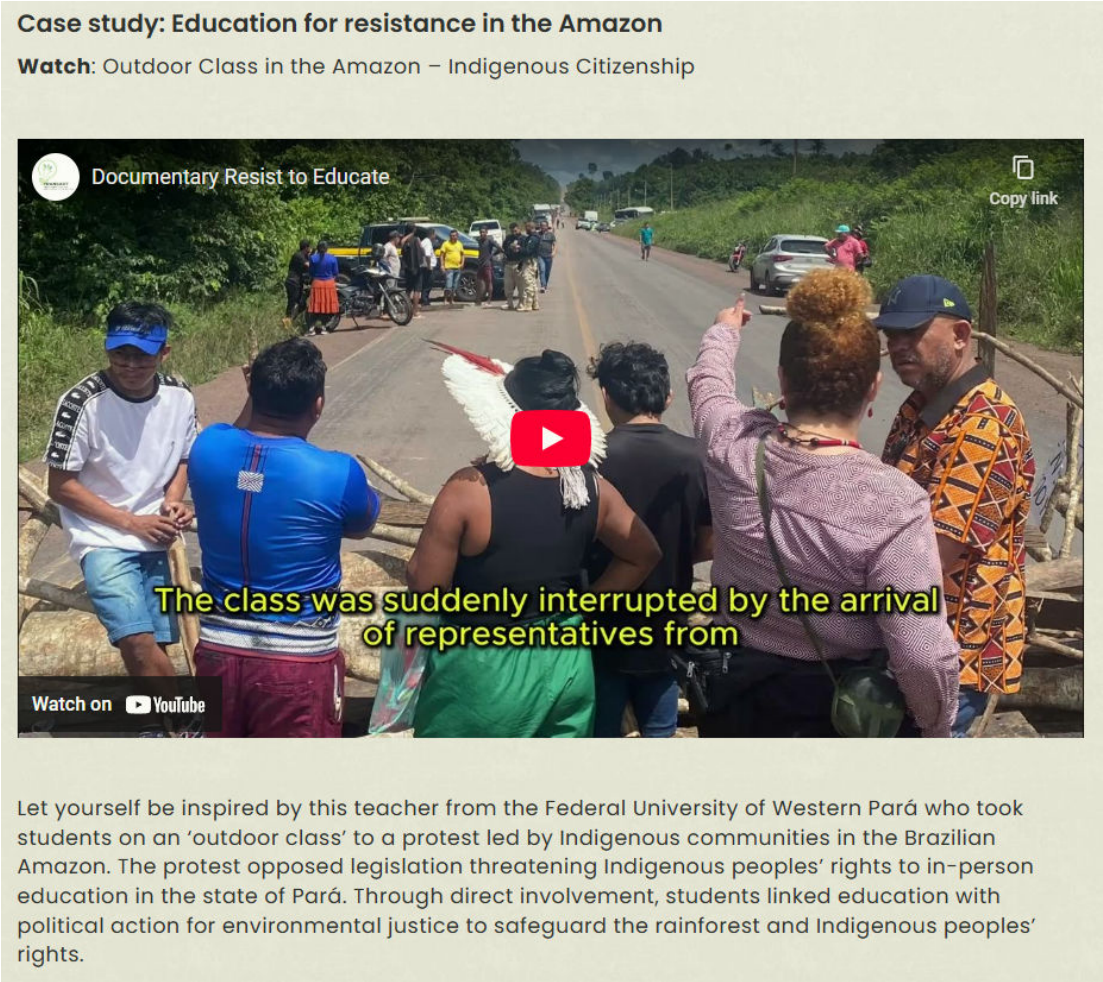


Figure 14. Overview of a case study on transformative education based on a documentary realised by RU in PLANET4B, from the *Biodiversity and the natural world in crisis* online course for educators. Source: PLANET4B Biodiversity Engagement Course for Educators; and video from TransAct, 2025.

Slide 9: Activity – Take inspiration from the Pacific Islands Students Fighting Climate Change (7')

What began as a classroom assignment by 27 law students at a university in Vanuatu in the Pacific became a historic climate justice and legal breakthrough.

Prompted by their professor to research the most ambitious legal pathways to address climate change and present one to the Pacific Islands leaders, the students chose the boldest idea for action on their list: to push for an International Court of Justice (ICJ) advisory opinion on states' climate obligations, and consequences for inaction. Just a few years later, students' vision became a UN resolution backed by over 130 countries.

In this video, you'll hear how students from one of the world's most climate-vulnerable regions turned ambition into global action.

Project the following video (4').

After watching the video, update students on the outcome of the initiative:

In July 2025, the ICJ delivered its groundbreaking advisory opinion that will help hold climate polluters accountable. The Court unanimously affirmed that states have the obligation under international law to protect the climate system from greenhouse gases, and that failure to comply - for example, through continuing to produce, use or subsidise fossil fuels - could result in states being found guilty and having to pay compensation to harmed states. The ICJ also affirmed that the right to a clean, healthy and sustainable environment is crucial for the enjoyment of many other human rights (CIEL, 2025).

Figure 15. Overview of an activity for higher education students about transformative change based on the Pacific Islands Students Fighting Climate Change initiative, from the *Biodiversity and the natural world in crisis* teaching notes for higher education. Source: PLANET4B Biodiversity Engagement Course for Educators; and video from Pacific Islands Students Fighting Climate Change, 2024.

Activities such as the one in Figure 16 below (here from the course material, but also included in the accompanying student-facing teaching notes) encourage educators and young people to imagine how the fashion system could be organised differently, to ensure that people and biodiversity can thrive in balance, contributing to fostering the GreenComp competence of futures literacy (Bianchi et al., 2022) in educators and students.

5.3 **What if we stopped making new clothes?**

Activity: What if we stopped making new clothes? (15')

Prompt: According to the British Fashion Council, we have already produced enough clothes for the next six generations. What if we collectively decided to pause the production of new clothes for, say, the next 20 years? What kind of fashion system would emerge?

Consider the following questions:

- How would we treat the clothes in our wardrobe?
- How could we swap, repair, and remake clothes to keep fashion exciting?
- How could governments and businesses ensure a decent living for the 25 million workers in the fashion industry whose jobs would be impacted?
- What other kinds of businesses might thrive in a sector of zero new production?
- How would the price of the available clothes be set to ensure that the available clothes do not become the exclusive remit of wealthy people?
- How could governments ensure the fashion system protects biodiversity and human rights?

Figure 16. Overview of an activity inviting students and educators to imagine what a sustainable fashion system could look like, from the *Slowing down fashion for a just and biodiverse future* module. Source: PLANET4B Biodiversity Engagement Course for Educators.

In response to feedback from students (see section 3.5 on Testing process below), each of the four thematic modules ends with ideas for action and encourages educators and learners to also propose their own ideas for action. The actions are organised at the three levels of change that underpin PLANET4B's philosophy and are adapted to a non-academic audience:

- Personal reflection and growth (reflecting the intrapersonal level);
- Community engagement and cultural change (reflecting the interpersonal level);
- Collective action and institutional change (reflecting the institutional level).

The first module on *Biodiversity and the natural world in crisis* outlines how these three levels are interconnected and can support each other in achieving change. We encourage educators and learners to connect their individual actions to these broader ambitions of cultural and institutional changes.

For young people in secondary school, we use the metaphor of 'Seeds of change' to encourage them to take action that is appropriate for their age, and suits their strengths, as outlined in Figure 17 below.

Figure 17. Overview of the 'Seeds of change' activity, inviting secondary school students to take action for biodiversity, from the *Biodiversity and the natural world in crisis* slides accompanying the teaching notes for secondary education. Source: PLANET4B Biodiversity Engagement Course for Educators.

Another activity that supports action and encourages young people in secondary school to think about meaningful jobs is based on one of the videos produced by UNIPI within the PLANET4B project (Figure 18 below). The video features different experts who work on transforming the fashion system: a Greenpeace pollution campaign lead, a fashion journalist, a sustainability manager in a dyeing factory, a sustainable fibre entrepreneur, and a researcher working on fashion waste policy. Each expert explains their role and shares advice for young people on how to get involved. We hope that this will inspire young people in secondary school about future career paths that support the green transition, in the fashion sector or in other sectors.

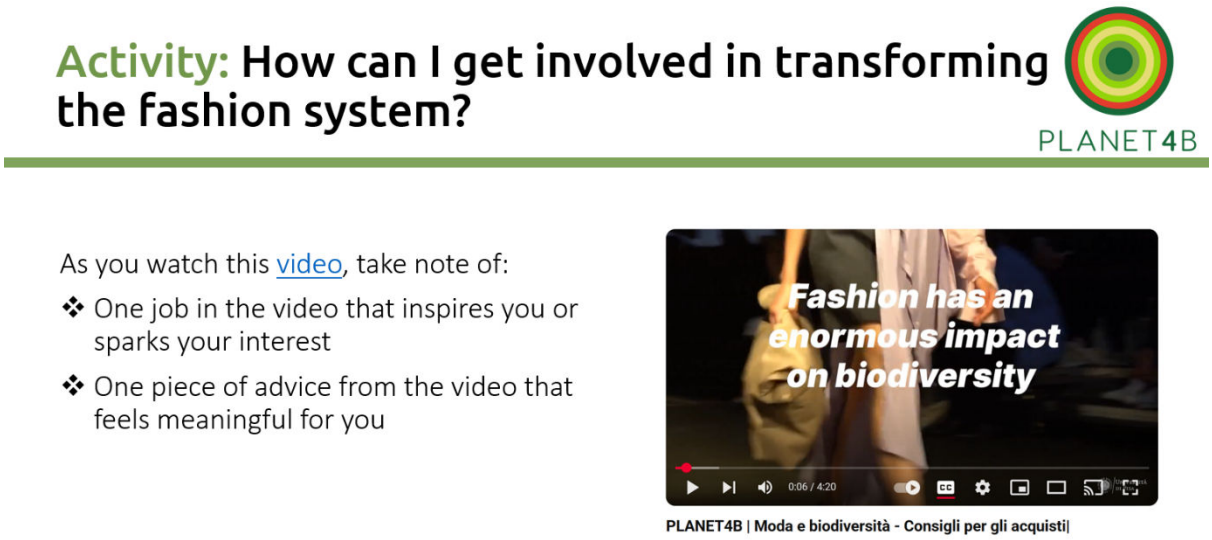


Figure 18. Overview of an activity inviting secondary school students to watch a video with sustainable fashion experts and reflect on ways of getting involved that resonate with them, from the *Slowing down fashion for a just and biodiverse future* slides accompanying the teaching notes for secondary education. Source: PLANET4B Biodiversity Engagement Course for Educators; and video from MediaEventi Unipi, 2024.

3.3 Method for developing the Biodiversity Engagement Course for Educators

To maximise the impact of the knowledge and tools produced through PLANET4B with young people and educators, we combined TEHRA's method of producing systems-informed educational resources on climate change for secondary school students, with the most engaging and effective PLANET4B methods used within the project's cases studies (adapted to young audiences). This Course is also meant to support TEHRA's communication and awareness raising work on biodiversity with education actors (PLANET4B, Task 5.4). Educators are looking for concrete educational resources that are ready-to-use when it comes to addressing new topics with their students.

To create the content of the Biodiversity Engagement Course for Educators, we started by exploring the PLANET4B partners' project activities and accompanying outputs of the project. We examined WP1 deliverables on the theoretical foundation of the project, and WP2 deliverables on the intervention methods that have been created and tested in the PLANET4B case studies.

The next step was to have bilateral meetings with many of the PLANET4B case study leads. The TEHRA team sought to gather case studies' inputs to two main questions:

- What key messages/ideas from your case study should be transmitted to educators and young people?
- Which PLANET4B methods worked best in your case? Which are suitable or adaptable to a younger audience?

Once we gathered this input, we designed the Course structure into the four thematic modules (see section 2.2, and the Annex below). This structure was deemed suitable

for bringing these insights together into a coherent educational package that would be relevant and interesting for young people in different countries and learning settings.

Initially, the course was going to consist of a textbook-like output, which is the format of the educational resources previously produced by TEHRA. The TEHRA team undertook background research on biodiversity, intersectionality, systems change, the global food and fashion systems and sustainable alternatives, human-nature connection, and environmental justice, to produce the initial draft modules. The initial drafts were reviewed by PLANET4B partners with expertise in the relevant themes.

The module on *Slowing down fashion for a just and biodiverse future* was trialled by a secondary school teacher with a class of 15-year-old students, whose feedback informed the format of the Biodiversity Engagement Course.

The next phase of the work consisted of adapting the educators' versions of the modules to two audiences, secondary and higher education students. For certain sections, the depth and complexity of the information shared was differentiated. For other sections, we adapted the language to the age of the audience. Certain activities were not included in both versions, or had differentiated discussion prompts. The ideas for action were also adapted to the age range of the audience.

In parallel, we selected and adapted the eight engagement Activities from the 28 engagement methods originally used within the PLANET4B case studies (Franklin et al. (eds.), 2024) (see section 3.1, above).

In parallel with the finalisation of the educational materials, TEHRA worked with a graphic designer who created visually engaging illustrations. TEHRA and the graphic designer agreed on an initial artistic direction for the style and the colour palette of the project, building on the PLANET4B visual identity. Subsequently, TEHRA provided the graphic designer with the teaching notes for each module, signposting key concepts that the graphic designer interpreted creatively. These illustrations are included both in the online course for educators, and in the slide presentations for students (see for example, Figures 5–7 and 17 above).

The final step of the content creation process was to translate the teaching notes and the slide presentations into multiple languages. The documents have been translated into French, Portuguese and Romanian using an AI software. The translations have been reviewed by RU (for the Portuguese versions), and by TEHRA (for the French and Romanian versions).

Table 1. Timeline of the creation of the Biodiversity Engagement Course for Educators. Source: Authors' own work.

• February 2024 – August 2024: in-depth exploration of the PLANET4B theoretical frameworks, case study activities, and engagement methods • September 2024 – January 2025: bilateral meetings with case study leads • September 2024 – March 2025: consultations with educators working in formal or non-formal education settings about the content and format of environmental educational resources • September 2024 – March 2025: background research and drafting of the initial versions of the educators' course material • December 2024 – March 2025: review of the initial draft versions of the educators' course material by PLANET4B partners

- January 2025: meeting with CU and UNEP-WCMC (London) to further refine the T5.5 approach and output idea
- January, March and July 2025: testing of one of the modules, and two of the PLANET4B methods
- April 2025 – August 2025: development of an exploitation plan for the Biodiversity Engagement Course for Educators, with the Horizon Results Booster programme
- April 2025 – September 2025: creation of teaching notes and accompanying slides
- June 2025 – August 2025: review of the online courses and teaching notes by CU
- August 2025 – September 2025: review of the *Slowing down fashion* and *Food sovereignty* modules by two PLANET4B partners with expertise in these areas (UNIPI, ESSRG)
- August 2025 – September 2025: finalisation of the Biodiversity Engagement Course for Educators
- October 2025: translation of the teaching notes and the slide presentations into French, Portuguese and Romanian by TEHRA and RU
- October 2025: preparation of a selection of educational resources for primary education, including lesson plans prepared by ESSRG

Launching the Biodiversity Engagement Course for Educators has, thus far, included multiple in-person events bringing together teachers, policy makers and pedagogical researchers. An initial launch event consisted of presenting an overview of the modules in the Biodiversity Engagement Course for Educators at the public-facing PLANET4B event during the final project meeting to an audience of researchers, policymakers and practitioners (Brussels, Belgium – September 2025). The second launch event took place at *the Empowering Youth through Environmental Storytelling* – Capacity building workshop for Educators (Brussels, Belgium – October 2025). A second public promotion event took the format of a conference presentation at the conference for higher education professionals entitled 'How to prepare yourself and youth for the socio-ecological transition?' (Mons, Belgium – October 2025). TEHRA will present the Biodiversity Engagement Course for Educators at the Education for Climate Day 2025 organised by the European Commission (Brussels, Belgium – October 2025), where it has been selected as one of the three winners of the 2025 Annual Call in the theme of *Green Education Projects: Citizenship Education*, for its environmental education work, including in PLANET4B. The audience of the event, livestreamed from Brussels, will include formal and non-formal educators, pedagogical researchers, and policymakers.

The Course will be further disseminated through a dedicated social media strategy as well through targeted communications (including both online and in-person presentations) for educators working in formal and non-formal education at secondary and higher levels across Europe and beyond (these being the primary target audiences of the Biodiversity Engagement Course). An exploitation plan has also been developed through the Horizon Results Booster Programme, to ensure the continued use of the Biodiversity Course after the lifespan of the PLANET4B project. See Tables 14 and 15 in Deliverable 5.3 – Updated CDE Plan for the Exploitation Intention and the Exploitation Roadmap of the materials for Educators.

3.4 Technical build of the online course platform

After consideration of existing online platforms that could potentially host both the Deliverable 5.9 training materials and the Deliverable 5.10 adjusted materials for educators, it was decided that a bespoke website would be most suitable, as this gave more control in terms of bespoke project branding and how the materials could be

organised. Working closely with a web developer, the platform was developed on Webflow to host a variety of biodiversity engagement methods and materials tailored to different audiences. This meant the courses for educators, related activities, teaching notes and slide presentations for lessons could be organised together under one tab for 'Educators' to give those working in education settings the best user-experience.

The modules are structured to allow choice and flexibility for the educators, depending on their requirements: beginning with an introduction to biodiversity. The platform has been designed to allow any required future edits and updates to be made to existing pages by non-experts from CU, without the need for the web developer to be involved in minor changes. It is hoped this platform will host future related courses and resources, and the web developer is engaged for five years post-project to ensure smooth running for these PLANET4B courses as well as the addition of any future ones.

3.5 Testing process

Different components of the Biodiversity Engagement Course for Educators have been strategically selected for testing with teachers and students. The testing process, as well as consultations with formal and non-formal educators interested or involved in environmental education has been conducted in the context of PLANET4B and through other projects.

We have sought to take the feedback received on board as much as possible, to create educational materials that adequately support teachers' professional development needs, save on lesson preparation time and contribute to fostering educators' and students' GreenComp competences.

The Pathbreak Biodiversity JENGA® game was tested in a primary school in England with a class of 20 students aged 9–11 using a super-sized Jenga set. Language and terminology were adapted to suit the age group and align with their previous project on swift conservation. Students were observed to be highly engaged and demonstrated strong emotional investment in maintaining the 'ecosystem' tower. Teacher feedback noted that whole-class participation encouraged teamwork and focus. The teacher has since implemented a personalised version with continued success. The complete data is available here on Zenodo.

An economics teacher from a secondary school in Belgium trialled the module on *Slowing down fashion* with a class of 20 students aged 15–16. The teacher was provided with the online course for educators, amounting to three one-hour lessons of teaching time. The teacher was only able to deliver two lessons, highlighting the need for shorter lessons, at a level of complexity that is adjusted to secondary and higher education respectively. Students were observed to be engaged in the lessons, showing curiosity and actively participating throughout. A key piece of feedback that we received from the students who tested the module was to include ideas on how to get involved and help change the fashion system. Students particularly enjoyed the interactive and group discussion activities, especially the activity on the fashion industry's impact on biodiversity, and the activity on textile waste management in India, which combined video watching and questions guiding learning and critical reflection

effectively. Group discussions worked well, encouraging collaboration and critical thinking. The teacher noted that the lesson was well-received and appreciated how the activities reinforced key concepts. The complete data is available here and here on Zenodo.

The TEHRA team has also tested the activity outlined in Figure 10 (partly adapted) and the *Mindfulness* Activity with a group of 30 students from a school in Belgium, aged 9–15, on a retreat day in a woodland. The activity in Figure 10 above was particularly interesting for students who picked up on the uneven distribution of environmental benefits and how unfair this was. A 9-year-old student proposed to have households in the poorer neighbourhood move to the richer neighbourhood as a solution. This shows the power of activities that encourage students to use their critical thinking and appeals to their sense of justice. Students particularly enjoyed the *Mindfulness* activity that was conducted in the woodland and was complemented with a debrief inspired by the activity in Figure 8 above. TEHRA reflected with students on our societal disconnection from nature. As causes, they identified the overuse of phones, social media and living in urban areas. The vast majority expressed their agreement with the proposal of treating nature as something that we, humans, are also part of, to address the environmental crises. This debrief prompted a conversation with their teacher, who agreed to consider the introduction of more moments of silence and mindfulness spent outdoors in the school's green area, recognising the value that it has for students.

Most recently, further testing of the materials took place during a 2.5 day-training workshop on environmental education organised by TEHRA for fifteen European educators (Brussels, Belgium – 14–16 October 2025). Based on feedback received, the innovative theoretical framework of the training strongly resonated with the participating educators. This is because it combined systems thinking, intersectionality, storytelling and experiential learning to inspire transformative action addressing the climate and biodiversity crises. The educators very much appreciated the combination of online training for educators, with the ready-to-use teaching materials that the Biodiversity Engagement Course for Educators offers.

5 Conclusion and outlook

The development of the Biodiversity Engagement Course for Educators has addressed the objective of creating accessible, engaging and evidence-based training materials for secondary and higher education that translate PLANET4B's theoretical frameworks, case study insights and engagement methods into practical educational resources for biodiversity. By combining systems thinking, intersectionality, and creative and experiential learning, the course supports educators in guiding young people in understanding the biodiversity crisis and acting for transformative change. Its flexible, modular structure and multilingual accessibility respond to educators' needs for adaptable, time-efficient, and engaging materials.

Looking ahead, the course provides a foundation for further integration of PLANET4B outcomes across TEHRA's work such as the Horizon Europe project TOWCHED[2], and

[2] TOWCHED (*Transforming Our World: Collections at the Heart of life-long learning and Education*) is a Horizon Europe project (funded under Grant Agreement 101177736) that seeks to leverage museum

future initiatives. It supports ongoing efforts to strengthen transformative education and GreenComp competences in formal and non-formal education. The platform's adaptable design and established educator network create opportunities for use of the educational materials beyond the project's lifespan, contributing to the broader vision of embedding biodiversity and sustainability education into European and global teaching practices.

collections for Education for Sustainable Development through innovative educational interventions. TEHRA leads a capacity building work package in the project.

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Statement on data availability

Some of the feedback received from teachers and students who have tested some of the educational materials from the PLANET4B Biodiversity Engagement Course for Educators is available on Zenodo.

Statement on ethics

TEHRA adhered to high ethical and safeguarding standards during the testing process when working with minor students (see section 3.5). The testing process was mainly conducted through the students' teachers who tested the materials directly in their classrooms and collected students' anonymous feedback. Where TEHRA staff conducted activities with students, this was always done in the teacher's presence. No personal information such as students' names or identifiable photos was collected.

Annex

Overview of thematic modules and lesson structure

This Annex provides an overview of the thematic modules, and lesson structure of the online course for educators, including learning objectives.

Biodiversity and the natural world in crisis

For full access to this module for educators, and accompanying teaching materials, please visit the PLANET4B *C*are-full Courses digital platform at https://www.care-full-courses.com/educators/biodiversity-and-the-natural-world-in-crisis---lesson-1.

Lesson structure:

- Lesson 1: Why biodiversity matters: meaning and values
  - Learning objectives:
    - Understand the given definitions of biodiversity, nature and ecosystems
    - Understand that there are different definitions and ways of valuing biodiversity and nature
    - Understand the different kinds of ecosystem services and how they highlight the many ways in which biodiversity supports human life
- Lesson 2: The crisis unfolding: biodiversity loss and its impacts
  - Learning objectives:
    - Learn about the extent of biodiversity loss globally
    - Understand how and why ecosystems suffer from biodiversity loss
    - Know how biodiversity loss affects human health and wellbeing
- Lesson 3: Injustice at the heart of the biodiversity crisis: intersectionality and unequal impacts
  - Learning objectives:
    - Understand how dominant views of nature have shaped human – nature relationships
    - Learn what intersectionality means and why it matters for biodiversity
    - Recognise who is most affected by biodiversity loss and why
- Lesson 4: Drivers of the crisis and underlying causes
  - Learning objectives:
    - Understand what human activities are causing biodiversity loss
    - Learn how current views, economic and political systems contribute to the biodiversity crisis
    - Explore why action to protect biodiversity is often blocked
- Lesson 5: How can we achieve wellbeing for all forms of life on Earth?
  - Learning objectives:
    - Understand how systems change can help protect biodiversity, using leverage points like values, rules, and worldviews
    - Recognise the importance of justice, inclusion, and Indigenous knowledge in biodiversity decision-making
- Lesson 6: From reflection to action – the role of education in systems change
  - Learning objectives:

        - Recognise how actions at personal, community, and institutional levels contribute to protecting biodiversity
        - Reflect on your own role as an educator and citizen in fostering cultural and systemic change
        - Identify practical steps you can take to support biodiversity

Food sovereignty for a just and biodiverse future

For full access to this module for educators, and accompanying teaching materials, please visit the PLANET4B *C*are-full Courses digital platform at https://www.care-full-courses.com/educators/food-sovereignty-for-a-just-and-biodiverse-future---lesson-1.

Lesson structure:

- Lesson 1: Biodiversity: the cornerstone of food systems
    - Learning objectives:
        - Understand food as more than nutrition: as culture, heritage, and ecological relationship
        - Recognise the foundational role biodiversity plays in sustaining ecosystems
- Lesson 2: The global food system and biodiversity loss
    - Learning objectives:
        - Describe how the global industrial food system contributes to biodiversity erosion
        - Identify the ecological, social, and health impacts of industrial agriculture
        - Critically assess the role of monocultures, livestock farming, commercial seeds and corporate control in driving biodiversity loss
- Lesson 3: Agricultural production, a key driver of biodiversity loss
    - Learning objectives:
        - Explain how agricultural land use, water use, and greenhouse gas emissions impact biodiversity
        - Analyse the role of meat production and feed crops (e.g. soy) in ecosystem degradation and global deforestation
        - Reflect critically on land use in current food systems (plant vs. livestock yields)
- Lesson 4: Can we produce our food differently?
    - Learning objectives:
        - Explain what agroecology is, in your own words
        - Evaluate the role of smallholder farms and agroecology in fostering biodiversity and food sovereignty
        - Examine the impact of global agribusiness and agricultural subsidies on food system resilience and justice
        - Reflect on the myth of scarcity and the false trade-off between feeding people and protecting nature
- Lesson 5: Food sovereignty for a just and biodiverse future
    - Learning objectives:
        - Define in your own words what food sovereignty is, and its key principles: commons, diversity, and solidarity

        - Connect food sovereignty with broader frameworks for systemic change, such as IPBES's leverage points
        - Explore local and global examples (e.g. seed saving, community-supported agriculture) that embody food sovereignty in action
- Lesson 6: From reflection to action: honouring the gift of food
    - Learning objectives:
        - Recognise how actions at personal, community, and institutional levels in relation to food contribute to protecting biodiversity
        - Reflect on your own role as an educator and citizen in fostering cultural and systemic change
        - Identify practical steps you can take to support biodiversity through food-related action

Slowing down fashion for a just and biodiverse future

For full access to this module for educators, and accompanying teaching materials, please visit the PLANET4B *C*are-full Courses digital platform at https://www.care-full-courses.com/educators/slowing-down-fashion-for-a-just-and-biodiverse-future---lesson-1.

Lesson structure:

- Lesson 1: From a T-shirt to extinction: uncovering fashion's environmental footprint
    - Learning objectives:
        - Trace the life cycle of a common garment
        - Identify biodiversity impacts at each stage
- Lesson 2: The fashion system and its impact on nature
    - Learning objectives:
        - Define the fashion system and explain its key stages
        - Explain how fashion contributes to biodiversity loss through land use, pollution, climate change and resources extraction
        - Reflect on own and other people's reasons for buying new clothes
- Lesson 3: Growth at any cost: the systemic roots of fashion's environmental footprint
    - Learning objectives:
        - Explain how the fashion industry is shaped by growth-oriented economic models
        - Critically assess sustainability claims within the fashion sector
        - Understand how the current system benefits elites while shifting costs onto people and the planet
- Lesson 4: Out of sight, out of mind: fashion waste and global injustice
    - Learning objectives:
        - Describe the global waste flows of the fashion system and their impacts on people and nature
        - Examine how labour, environmental harm, and disposal are made invisible in the fashion system and contribute to inequalities
        - Understand the importance of labour rights to promote biodiversity and well-being
- Lesson 5: Shaping the future of fashion
    - Learning objectives:

        - Envision alternative economic goals focused on wellbeing rather than profit
        - Apply systems thinking and leverage points to analyse the fashion system
        - Reflect on utopian scenarios and imagine radically sustainable futures
- Lesson 6: From reflection to action: reclaiming our role as changemakers
    - Learning objectives:
        - Reflect on your personal relationship with clothing and consumption
        - Explore opportunities for community education, events, and cultural change
        - Engage in actions to support systemic transformation in fashion, from local initiatives to global movements

The benefits of connecting with nature

For full access to this module for educators, and accompanying teaching materials, please visit the PLANET4B *C*are-full courses digital platform at https://www.care-full-courses.com/educators/the-benefits-of-connecting-with-nature---lesson-1.

Lesson structure:

- Lesson 1: Being in nature improves our wellbeing
    - Learning objectives:
        - Understand how natural systems improve people's quality of life
        - Reflect on how the more we personally value nature, the more we benefit from it
        - Understand how more biodiverse nature gives us a greater sense of wellbeing through connecting with it
- Lesson 2: The many values of nature
    - Learning objectives:
        - Understand multiple ways of valuing and relating to nature exist
        - Understand how nature exists in social and cultural contexts and how the meanings assigned to nature have value for people in socio-cultural ways
        - Reflect on how incorporating the socio-cultural values of nature in environmental decision-making can improve its social and ecological outcomes
- Lesson 3: Actions to bring people closer to nature
    - Learning objectives:
        - Recognise how actions at personal, community, and institutional levels contribute to bringing people closer to nature
        - Reflect on your own role as an educator and citizen in fostering cultural and systemic change to bring people, including students, closer to nature
        - Identify practical steps you can take to support biodiversity and equal access to nature