

# Climate Crisis Resilience

## Learning and Teaching Package 4

### UNIT 4: DESIGN A BOARD GAME TO DEVELOP CLIMATE CRISIS RESILIENCE

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## Overview

This LTP explores an innovative approach to teaching climate crisis resilience through educational games. It emphasises the transformative potential of gamification in enhancing both teaching and learning experiences related to climate crises. It introduces the concept of gamification as a tool to understand the climate crisis and what students can do to become resilient and contribute to the prevention of disasters. By using gamification and game-based learning, students are provided with an opportunity to be actively engaged while learning about disaster risks and resilience. At the same time, they are encouraged to enhance their collaborative, problem-solving and creative thinking skills.

**Unit 4** is focused on the design of a board game centred around climate crisis resilience. Through a gamified approach, this unit aims to equip learners with practical skills and knowledge to critically address challenges posed by the climate crisis in their local community or in a setting they know well or can easily relate to and to think about creative ways to solve these challenges. Students are encouraged to find problems in their immediate surroundings related to the climate crisis and to recognize potential solutions that can be implemented to mitigate climate change and build resilience through play and through the building of board games.

It finishes with an activity to reflect on your practice (individually and/or with colleagues), on how the previous activities contribute to developing sustainability competences and acting in a more sustainable way. We also propose a [Template to develop your own learning activities](#), and [TAP-TS Roadmap](#) to lead you through the process.

## Pedagogical Approach

The pedagogical approach of using games in education is grounded in the belief that play and interactive engagement enhance the learning process. This approach leverages the principles of gamification and game-based learning to create an immersive and dynamic learning environment in which students are active participants rather than passive consumers of the learning material. Games capture student attention and motivate them to participate. The collaborative nature of games ensures sustained interest and motivation and provides students with opportunities to learn from and with peers. The teaching content is presented in a way that makes abstract and complex concepts more relatable to students, which contributes to better understanding and retention of knowledge.

## Climate Crisis Resilience: Background information

This unit relies on the use of games and gamification in the classroom to enhance learning. The focus is on the use of unplugged games and on the transformation of traditional games into instruments for raising awareness of climate crisis and building resilience to tackle different types of climate crises. Introducing board games alongside digital games creates a well-rounded and inclusive approach to game-based learning and caters to the varied needs of students and their well-being. It emphasises the significant importance of managing screen time, tangible exploration of creative ideas as well as cost-effectiveness and accessibility.

## Piloting of the materials within TAP-TS

The materials of Unit 4 were presented during ALE 1 Santarem, Portugal as a one hour and a half workshop for practising teachers, student teachers and teacher educators. The materials are also presented as a Moodle course on TAP-TS Platform - <https://tap-ts.eu/course/index.php?categoryid=13>



## UNIT Overview

Main Topic	Target Group	Duration	Knowledge Area/ Subjects in School	Activities	Suggestions for assessment
Learning about climate crisis resilience through board game design	Pre-service and In-service teachers for students from secondary schools.	250 min	Biology Chemistry Ecology Language Arts	<p><b>Start-up</b> Your experience matters</p> <p><b>Development</b> <b>Activity 1.</b> Introduction to Game Design <b>Activity 2.</b> Prototype Game Design <b>Activity 3.</b> Game Testing</p> <p><b>Consolidation.</b> Feedback and Game Redesign</p> <p><b>Follow-up.</b> Evaluation <b>Reflection on practice</b></p>	Peer feedback in the format 2 stars and a wish, rubrics for summative assessment, peer and self-assessment
<b>Intended Learning Outcomes</b>	<p><b>Having worked through the activities and materials, students will be able to:</b></p> <ul style="list-style-type: none"> <li>✓ recognize different types of climate challenges in their immediate surroundings.</li> <li>✓ define possible responses to climate challenges to build up resilience.</li> <li>✓ create a prototype of a board game and test it.</li> </ul>				
<b>Prior Competencies</b>	Optional/ideal: Unit 1. Using serious games to teach sustainability & resilience.				
<b>Required materials</b>	cardboard, markers, pen, paper, index cards, etc., further materials dependent on the board game design, e.g. dice, spinners, etc.				
<b>Cooperation/ Networking</b>	Local recycling companies Recycling collection centres				
<b>Addressing GreenComp</b>	<b>Embodying sustainability values</b>				
	x	1.1 Valuing sustainability	To reflect on personal values; identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values.		
	x	1.2 Supporting fairness	To support equity and justice for current and future generations and learn from previous generations for sustainability.		
	x	1.3 Promoting nature	To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems.		
	<b>Embracing complexity in sustainability</b>				
		2.1 Systems thinking	To approach a sustainability problem from all sides; to consider time, space and context in order to understand how elements interact within and between systems.		
	x	2.2 Critical thinking	To assess information and arguments*, identify assumptions, challenge the status quo, and reflect on how personal, social and cultural backgrounds influence thinking and conclusions.		
x	2.3 Problem framing	To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems.			
<b>Envisioning sustainable futures</b>					



x	3.1 Futures literacy	To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future
x	3.2 Adaptability	To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity and risk.
x	3.3 Exploratory thinking	To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.
<b>Acting for sustainability</b>		
x	4.1 Political agency	To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.
x	4.2 Collective action	To act for change in collaboration with others.
x	4.3 Individual initiative	To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet.



## UNIT DESCRIPTION

### Start-Up

*students are introduced to the topic of the climate crisis.*

**Estimated  
Duration**

#### **Activity 1. YOUR EXPERIENCE MATTERS**

The activity starts with a survey about different types of climate crisis and its causes to elicit from the participants what they already know about the topic.

**Green Comp:** 1.1 Valuing sustainability

**Preparation for Activities:** Teacher uses a digital tool to create a survey. Students need a device, e.g. mobile phone to participate in the survey.

**A Note for a Teacher:** Each student should have their own device. The survey is anonymous.

25 min

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#### **Description**



Prior to the start of the activity, the teacher prepares a survey by using the digital tool [Wooclap](#).



Different question types are used. The suggested questions are as follows:

1. What is climate crisis? (open ended answers)
2. Use one word to define resilience (word cloud)
3. On a scale of 1 to 5 decide how much you disagree (1) or agree (5) with the following statements:
  - a) Climate crisis is caused by humans.



b) Instead of finding ways to prevent climate change, we need to learn how to live with it.

c) Resilience should be an essential component of every climate action programme.




d) There is nothing an individual person can do to prevent climate crisis.

4. What types of climate change can you see in your local community? (open-ended answers)







The survey is followed by a discussion to help clear misconceptions the students might have.






Development		Estimated Duration
<i>Students find a problem and look for solutions while designing a board game.</i>		
<p><b>Activity 1.</b> <b>INTRODUCTION TO GAME DESIGN</b></p> <p>In this activity students learn how to design games. They talk about the problems related to climate crisis in their immediate surroundings. They choose a problem they would like to solve or raise awareness.</p> <p><b>Green Comp:</b> 1.1 Valuing sustainability; 2.2 Critical thinking; 2.3 Problem Framing</p>	<p><b>Preparation for Activities:</b> Before the lesson, the teacher creates a digital choice board from scratch or adapts <a href="#">the proposed choice board</a>, a checklist and an evaluation rubric.</p> <p>Students are split into groups of 5.</p> <p><b>A Note for a Teacher:</b> Sample choice board, checklist and rubric are given in the activity 1.</p> <p><b>Description</b></p> <ol style="list-style-type: none"> <li>1.  Prior to the lesson, the teacher creates a choice board with different ideas for students to choose from. The Choice Boards provides 8 subtopics related to Climate change, <i>each subtopic links to explanations of the topic!</i> <a href="#">This choice board</a> can be used for this activity: Climate Crisis Resilience. The teacher can copy and modify the choice board.</li> <li>2.  The teacher asks students about board games they play, how the game is played, what is the end goal, how many players can play, what they must do, what obstacles/problems they encounter and how they solve them.</li> <li>3.  The teacher divides students in groups, with 5 students in each group. They go through the options in the choice board. They read the linked articles and connect them to the climate challenges in their local community. They find a problem and choose their topic for the game.</li> </ol>	30 min





	<p>4.  The students discuss how the selected challenge will be presented in the game they create. They decide on:</p> <ul style="list-style-type: none"><li>• End goal of the game</li><li>• Number of players</li><li>• Game options</li><li>• Obstacles and how to overcome them</li><li>• How players can progress in the game</li><li>• The list of items required for playing the game (e.g. dice, cards, etc.)</li><li>• The list of items needed for game design (index cards, cardboard, paper, pens, spinners, etc.)</li></ul> <p>The teacher shares a checklist to help students ensure they have included all the elements:</p> <ul style="list-style-type: none"><li>- We have defined the required items to play the game.</li><li>- We have defined how players progress in the game.</li><li>- We have defined the obstacles.</li><li>- We have defined how obstacles can be overcome.</li><li>- We have set the end goal of the project.</li><li>- We have set a minimum and a maximum number of players.</li><li>- We have stated the directions on how to play the game.</li></ul> <p>5.  To create a checklist, the teacher can use this template: <a href="#">Sample checklist</a>.</p> <p>6.  Before students start designing the game, the teacher shares an evaluation rubric. To create an evaluation rubric, the teacher can use <a href="#">ChatGPT</a> or this sample rubric by <a href="#">Read, Write, Think (also in Handouts Worksheet Rubric)</a>.</p> <p>7.  Alternatively, students can co-create an evaluation rubric and include elements that they believe should be part of their games.</p>	
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<p><b>Activity 2. PROTOTYPE GAME DESIGN</b></p> <p>In this activity, students work in groups and design their prototype game about a climate challenge and boosting climate crisis resilience. In addition, they prepare the guidelines for their peers on how to play the game. They create a poster or a video to advertise their game.</p> <p><i>Green Comp: 1.1 Valuing sustainability; 2.2 Critical thinking; 2.3 Problem Framing; 3.3 Exploratory thinking</i></p>	<p><b>Preparation for Activities:</b> Teacher hands out scrap paper to students so that they can prepare their games. Alternatively, the teacher can open online boards for this purpose, e.g. <a href="#">Mural</a>.</p> <p><b>Description</b></p> <ol style="list-style-type: none"> <li> Students discuss the ins and outs of their game prototype. They use scrap paper or an online board to write and draw. They outline the steps of their game and create a prototype.</li> <li> Students prepare a set of instructions for playing the game.</li> <li> Students prepare a poster or a video teaser about the game. For this purpose, they can use <a href="#">Canva</a>.</li> </ol>	<p>90 min</p>
<p><b>Activity 3. GAME TESTING</b></p> <p>In this activity, students play and test other groups' games. They leave feedback in the format Two stars and a wish so</p>	<p><b>Preparation for Activities:</b> Prepare colourful strips of paper or post it notes for the game testing activity. Prepare a two stars and a wish feedback form (in Handouts).</p> <p><b>A Note for a Teacher:</b> To facilitate organisation, implement colour coding: assign a specific colour to each table and provide each student with a corresponding colour, so they know where to relocate during the game testing phase. This visual cue will help streamline the process and enhance clarity for both students and the teacher.</p>	<p>40 min</p>



that the game authors can use the feedback to improve their game.

**Green Comp:** 2.2 *Critical thinking*; 3.2. *Adaptability*; 4.2. *Collective action*

## Description



1. Teacher designates one student from each team as the facilitator or game leader who remains at their team's table to lead the testing game. The remaining team members disperse to different tables, ensuring that each student plays a game created by a different team.

Students play the game following the written instructions and guidance from the game leader.



2. After the game is over, students take time to provide written feedback to the group. They use the format Two stars (two things they like about the game) and one wish (one thing that they would change explaining how they would improve it.)





This is a sample [Two stars and a Wish](#) form.







3. The game leader collects the feedback and asks additional questions for clarification. Further discussion is encouraged.



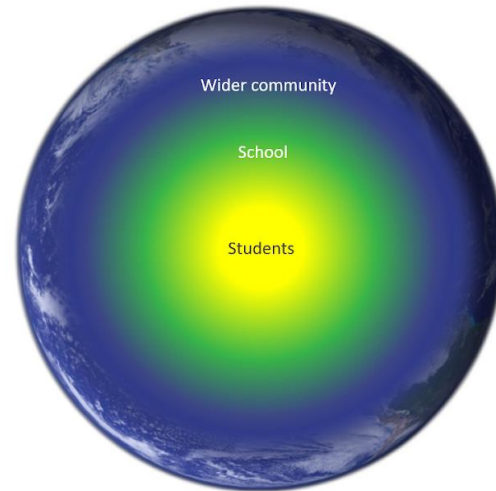
Consolidation		
<i>Students use peer feedback to redesign the game and improve it.</i>		<b>Estimated Duration</b>
<p><b>Activity 1. FEEDBACK AND GAME REDESIGN</b></p> <p>In this activity, students reflect on the feedback received by their peers on their game.</p>	<p><b>Preparation for Activities:</b> Students go back to their original groups.</p>	30 min
	<p><b>Description</b></p> <p> 1. Students take time to reflect on the feedback provided by their peers regarding their game. They engage in discussions about the games created by other teams, exploring ways to enhance their own game based on the constructive feedback received. This process involves collaborative conversations on potential improvements and redesigning elements of the game that require refinement.</p> <p> 2. Students redesign their game.</p>	



Follow-Up		
<i>Students reflect in a plenary about the activity.</i>		<b>Estimated Duration</b>
<p><b>Activity 1. EVALUATION</b></p> <p>In this activity, teacher uses the evaluation rubric to evaluate students' work.</p>	<p><b>Preparation for Activities:</b> Teacher and students use the evaluation rubric.</p>	20 min
	<p><b>Description</b></p> <p> Teacher uses the evaluation rubric prepared at the beginning of this Unit, to evaluate students' work.</p> <p> After evaluation students and the teacher reflect on the learning and game design process.</p>	
<p><b>Activity 2. Reflection on teacher practice</b></p> <p>This is an activity aimed at helping reflection (individually and/or with colleagues) on how the previous activities contribute to developing sustainability</p>	<p> <b>How can I mobilize the activities in my teacher practice?</b></p> <p> Please reflect on two or three of the following dimensions at three levels of engagement (students - teacher; school; and wider community and beyond):</p>	



competences and acting  
in a more sustainable  
way.



#### Dimension 1. Learning objectives:

- In what ways do these activities contribute to the global educational goals for your students? You might consider in particular LTP methods, materials, tools and activities you would or have implemented/transferred from the TAP-TS LTP into your regular teaching curricula.
- Within the school or learning context, how have the activities helped the learners in terms of embodying sustainability values, acting for a sustainable future and/or envisioning a more sustainable future?
- How have the activities added to the knowledge and understanding of the learners in terms of working with others in the broader community to create inclusive visions for a more sustainable future?



**Dimension 2. Integration with different subjects:**



In what ways the activities could engage your students with different knowledge areas and subjects of the curriculum? In what ways these activities could be connected with different subjects of the curriculum?



How have the activities contributed to collaboration with others at school or institutional level to approach a sustainability issue from different perspectives, knowledge areas and contexts?  
In your opinion, do the LTP materials, tools and methods you have implemented also offer potential for use in other subjects? If so, in which subjects?



How have the activities encouraged students to draw on different perspectives, and subject knowledge to identify interconnections, and reflect on one's own environmental, cultural and economic impact?



**Dimension 3. Inclusion:**



Can the previous activities contribute to all students' participation and learning? What actions can you take to ensure the learning of all students?



How have the activities contributed to engage with different perspectives to consider sustainability challenges and opportunities?



How do the activities help reflect on, identify, envision or even shape the trajectory towards a collective preferred future that includes various perspectives, cultures, traditions, and are grounded in values for sustainability?



**Dimension 4. Environmental / Sustainability awareness:**

To what extent do the activities promote awareness and responsibility among your students?

Did the implemented LTP materials, methods or tools increased or rather limited the opportunity to increase students' environmental awareness?

How have the activities encouraged the students to be aware of their individual and collective impact on nature, and provided opportunities to restore it at school level?

How have the activities contributed to grasp connections and interactions between natural events and human actions?



**Dimension 5 Digital resources and equipment:**

Do the current resources and equipment available in your institution adequately support the activities you have selected and implemented from LTP materials, or are there enhancements needed?

How did you try to enable students to use resources for learning at school in a sustainable way?

Did the activities encourage students to assess and question their needs to carefully manage resources in the pursuit of longer-term goals and common interests? How did the activities help them to think critically about information sources and communication channels on sustainability to assess the quality of the information they provide?



**Dimension 6. Community involvement:**

To what extent can you involve the local community or connect with community issues related to the sustainability theme approached?





- Have the selected and implemented LTP methods, tools and materials encouraged you to initiate cooperation with external partners (associations, companies, NGOs, etc.) to enrich learning experiences? If so, in which areas are you aiming for cooperation?
- To what extent do the activities engage in democratic decision making and civic activities for sustainable development?
- How does your teacher practice encourage students' intentions and willingness to give back to the community and nature?

✓ **Dimension 7. Assessment and feedback:**

- Have you adapted the original assessment methods or the requirements for students after integrating the LTP materials, methods, or tools into your existing teaching concept? If yes, in which way/how?
- To what extent does your teaching practice encourage students to use evidence, combine knowledge and resources to analyse and evaluate futures and their opportunities, limitations and risks, and contribute to decision-making at school level.
- To what extent does your teaching practice encourage students to use evidence, combine knowledge and resources to analyse and evaluate futures and their opportunities, limitations and risks, and contribute to decision-making, and become agents of change.



## Glossary of Icons



- Video



- Quiz



- Worksheets



- Editable Worksheets



- Various Media, e.g. Learning Apps



- Text to Read



- A question to Respond or a Question for Reflection



- A Discussion



- A task for an inquiry or search



- Focusing Activity



- A Reflection Activity



- An Activity for Action



- A Checklist, an Evaluation Rubric



- a short note for a teacher



- a group exchange



## Worksheets and Links




### Start-Up

#### Activity 1 Your experience matters

- Survey  [Proposed tool: [Wooclap](#)]

### Development

#### Activity 1 Introduction to game design

- Choice Board  [[Climate Crisis Resilience](#)]
- Checklist  [[Sample checklist for game design](#)]
- Evaluation rubric  – [[Sample evaluation rubric 1](#); [Sample Evaluation rubric 2](#)]

#### Activity 2 Prototype game design

- Online brainstorming board  [Proposed tool: [Mural](#)]
- Poster creation  [Proposed tool: [Canva](#)]

#### Activity 3 Game testing

- Feedback  [[Two stars and a wish](#) form]

### Follow-Up

#### Activity 1 Evaluation

- Evaluation rubric  – [[Sample evaluation rubric 1](#); [Sample Evaluation rubric 2](#)]

## TAP-TS Roadmap

TAP-TS Roadmap has three main goals: (1) for the TAP-TS partners as a roadmap to design LTPs; (2) for teachers and student teachers to design materials for teaching sustainability; (3) evaluation of LTPs. Explore the visualisation on the next page.

### TAP-TS Roadmap: the Steps / stages in the TAP-TS LTPs Design Journey

<b>1: Clarify the Goal</b>	<p>Our overarching goal is to enable learners and teachers to think and act sustainably. To actively participate in the discourse on sustainability, the topics must also be addressed - sustainably - in schools and universities. The goal of TAP-TS is to create learning and teaching packages for this purpose in the following areas:</p> <ul style="list-style-type: none"> <li>2.1 A Sustainable Europe.</li> <li>2.2 Sustainability and Digitality.</li> <li>2.3. Sustainability and Environmental Education.</li> <li>2.4 Climate Crisis Resilience.</li> <li>2.5 Dealing with Climate Disinformation.</li> <li>2.6 Green Citizenship in/for Europe.</li> <li>2.7 Sustainable Entrepreneurship Education.</li> </ul>
<b>2: Competency Areas</b>	<p>The LTPS should be aligned with the interconnected four competences defined in the Green Comp Framework: • Embodying sustainability values • Embracing complexity in sustainability • Envisioning sustainable futures • Acting for sustainability</p>
<b>3: Networking &amp; Bundle Expertise</b>	<p>There are many exciting topics. 1. Find a focus: what driving question is at the centre of your LTP. 2. See what resources are available (competencies, teaching-learning materials, etc.). 3. Network with colleagues and partner institutions regionally and nationally.</p>
<b>4: Working through the design process</b>	<p>Teaching Sustainability should be: action-oriented learning; hands-on; focussing on real life challenges; stimulate creative collaboration between teachers and learners; visions-oriented; participatory and action oriented . Approaches to teaching sustainability may be inquiry-based learning; explorative learning; networked learning; participation learning aimed at problem framing. Teaching Sustainability may incorporate the following activities: collaborative projects, future framing workshops, research and analysis, discussion.</p>
<b>5: ASSESSMENT DESIGN</b>	<p>In Education for Sustainability assessment can be multifaceted and primarily encourage reflection and be evidence based. There is not always ONE right answer. The goal should be to RAISE QUESTIONS. TS is not about teaching the „right“ behaviour, but about practising a critical perspective. Give TS an important place in curricula and implement credits, badges, or awards for it.</p>
<b>6: PUBLISH TO TAP-TS PLATFORM</b>	<p>Can you and where can you publish your materials under a Creative Commons license as free as possible. Because that is sustainable!</p>



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### 1 CLARIFY THE GOAL

A goal of TAP-TS is to create learning and teaching packages that would enable teachers and learners think and act sustainably. Find a focus based on SDGs, GreenComp Framework or a sustainability problem; and define learning objectives within the seven TAP-TS themes.

1. A Sustainable Europe.
2. Sustainability and Digitality.
3. Sustainability and Environmental Education
4. Climate Crisis Resilience. 5. Dealing with Climate Disinformation. 6. Green Citizenship in/for Europe. 7. Sustainable Entrepreneurship Education.

### 2

### PLAN

Consult the TAP-TS LTPs Architecture. The LTPs Units should address the interconnected competences as defined e.g. in the Green Comp Framework:

1. Embodying sustainability values
    - 1.1 Valuing sustainability | 1.2 Supporting fairness | 1.3 Promoting nature
  2. Embracing complexity in sustainability
    - 2.1 Systems thinking | 2.2 Critical thinking | 2.3 Problem framing
  3. Envisioning sustainable futures
    - 3.1 Futures literacy | 3.2 Adaptability | 3.3 Exploratory thinking
  4. Acting for sustainability
    - 4.1 Political agency | 4.2 Collective action | 4.3 Individual initiative
- See GreenComp for details

### 3

### BUILD NETWORK AND GROW EXPERTISE

See what resources are available and could support your LTP (teaching-learning materials, etc.). Network with colleagues and partner institutions regionally and nationally. Describe possible collaborations with the 'world of work'.

### 4

LEARNER CENTERED & INCLUSIVE

REFLECTION FOR ACTION

TRANSFORMATIVE



### 7

### SHARE

Publish and share your materials under a Creative Commons license as open access. Because that is sustainable!

### 6

### REFLECT

In Education for sustainability assessment is multifaceted, and primarily encourages reflection (for action and future-oriented) aimed to raise questions and practise a critical perspective.

### 5

DO IT! HAVE FUN!  
DISCUSS! BE CREATIVE!

# ROADMAP Developing TAP-TS Materials



# Teaching Sustainability: Learning activity Template

## 1. Introduce yourself!

<b>My name:</b>
<b>My country:</b>
<b>My role:</b>
<b>My school:</b>
<b>My class:</b>

## 2. OVERVIEW

*Provide a brief description of the learning activity, including information about the targeted age group and duration. Clearly state the motivation behind your learning activity and explain which elements of the curriculum your learning activity is related to.*

**Age Group:**

**Duration:**

**Related Themes of Sustainability:**

**Description:**

## 3. LEARNING OUTCOMES

*What are the learning outcomes of this learning activity, and which key GreenComp competences does it promote?*

## 4. LEARNING APPROACH

*Having in mind the learning outcomes, what active learning approaches will be applied?*

*Specify the engagement strategies and sequence of learning tasks that students will develop in the context of the activity. Explain how GreenComp competences will be promoted.*

*What will be the role of the teacher, and what will be the students' role? How will the students work—individually or in groups?*

## 5. DIGITAL RESOURCES

*Which digital technologies, including tools, services, and resources, will be utilized in the activity? Additionally, how will these digital technologies be effectively integrated to enhance lesson outcomes and student understanding?*

## 6. ASSESSMENT

*What assessment strategies and instruments will be employed to evaluate student learning?*

## GreenComp Framework: the European Sustainability Competence Framework

Within the TAP-TS Project, *GreenComp* (Bianchi et al., 2022) serves the following purposes: design of learning and teaching packages; development of TAP-TS professional development activities, (self)-reflection, and evaluation. The aim of GreenComp is to foster a sustainability mindset by helping teachers and students develop the knowledge, skills and attitudes to think, plan and act with empathy, responsibility, and care for our planet.

### Visual representation of *GreenComp*:



GreenComp consists of 12 competences (in bold) organised into the four areas (in italics) below:

- *Embodying sustainability values, including the competences*
  - **valuing sustainability**
  - **supporting fairness**
  - **promoting nature**
- *Embracing complexity in sustainability, including the competences*
  - **systems thinking**
  - **critical thinking**
  - **problem framing**
- *Envisioning sustainable futures, including the competences*
  - **futures literacy**
  - **adaptability**
  - **exploratory thinking**
- *Acting for sustainability, including the competences*
  - **political agency**
  - **collective action**
  - **individual initiative**

**Reference:** Bianchi, G., Pisiotis, U., Cabrera Giraldez, M. *GreenComp – The European sustainability competence framework*. Bacigalupo, M., Punie, Y. (editors), EUR 30955 EN, Publications Office of the European Union, Luxembourg, 2022; ISBN 978-92-76-46485-3, doi:10.2760/13286, JRC128040.

# Project partners

