



# Climate Crisis Resilience

## Learning and Teaching Package 4

### UNIT 3: TEACHING SUSTAINABILITY WITH SCENARIO BASED LEARNING

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## Overview

This LTP explores an innovative approach to teaching climate crisis resilience through educational games. It emphasizes 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 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 educate disaster risks and resilience. At the same time, they are encouraged to enhance their collaborative, problem-solving and creative thinking skills.

**Unit 3** uses the framework of a scenario with the students engaging in role play. The main narrative behind this activity is the possible building of a holiday resort on an island with a small population and well-preserved nature. The local people discuss this proposal of the authorities and investors. As the decision will have a fundamental impact on the future of young people on the island, the locals would like to have some exchange with young Europeans, and this will be the role of the participants in the game. They students will hear the different views of stakeholders involved or impacted. They will also reflect on scientific resources. At the end of the scenario the participants will do a pitch with the advice they will give about the potential development of the project.

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 integrating serious games and role plays in an educational activity is rooted in the principles of experiential learning and active engagement. By incorporating serious games, learners are immersed in a dynamic and interactive environment that stimulates critical thinking and problem-solving skills. The use of role plays adds a layer of realism, allowing participants to apply theoretical knowledge in practical scenarios.

## Climate Crisis Resilience: Background information

Focusing on climate crisis resilience with serious games immerses learners in dynamic, experiential simulations. This approach cultivates critical thinking, problem-solving, and collaboration, empowering students to explore and implement solutions to real-world climate challenges in an engaging way.

## Piloting of the materials within TAP-TS

This unit has been piloted both in an online and face-to-face setting. The first Online Workshop lasted for one week. The participants worked individually but also collaboratively, both asynchronously and synchronously during the 2 webinars that made part of the Online Workshop. A similar online course has been organized in the autumn of 2024 open to a wide public – [on the platform](#). The face-to-face version of the unit was piloted twice during the first Summer School in Cyprus.



## UNIT Overview

Main Topic	Target Group	Duration	Knowledge Area/ Subjects in School	Activities	Suggestions for assessment
Decision making	For teachers working with secondary school students	150 min.	Language – Arts Science	<p><b>Start-up</b> Warm-Up</p> <p><b>Development</b> <b>Activity 1: Transport</b> Getting to the island. <b>Activity 2: Meeting Hall</b> Getting to the Meeting Hall <b>Activity 3: Stakeholders</b> Empathise with stakeholders <b>Activity 4: Prepare advice</b> Create pitch <b>Consolidation: Final Pitches</b> Presentation of final advice <b>Follow-up</b> Reflection and Feedback</p>	Assessment is part of the scenario
<b>Intended Learning Outcomes</b>	<p>Having worked through the activities and materials, students will be able to:</p> <ul style="list-style-type: none"> <li>✓ Experience the complexity of decision making</li> <li>✓ Give a motivated answer to a complex problem</li> <li>✓ Create a consensus with other team members</li> <li>✓ Reflect on personal behaviour regarding sustainability and environmental issues</li> </ul>				
<b>Prior Competencies</b>	The reading and video materials are in English and require a basic to more advanced level of English.				
<b>Required materials</b>	Smartphones and/or laptops, paper				
<b>Cooperation/ Networking</b>	<ul style="list-style-type: none"> <li>● Students work in groups of 4</li> </ul>				
<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.		
		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>				
	X	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		
	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.			



	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>	
	4.1 Political agency	To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.
	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

#### *Short Warm-Up activity*

**Estimated  
Duration**


#### **WARM UP**

The focus of the short activity is to bring the students implicitly into the mood of the dilemmas one can have when having to take a decision.

#### **Preparation for Activities:**

The students will work in groups, preferably of 4 members.

#### **Description**



 The teacher asks some questions in plenary (below). The aim is to introduce the next activity in an indirect way and to create a *warm* start for the main part of the lesson.

#### **QUESTIONS:**

- Have you (or your family) ever been in doubt on what type of transport you would take, for instance, to go on holidays? What made you decide to choose for one of the options?
- Do you know someone who doesn't want to fly? Why?

10 min



Development		Estimated Duration
<p><i>The teams take a role in a scenario that will lead to a final pitch with a group decision.</i></p>		
<p><b>Activity 1. TRANSPORT</b> The students reflect on the type of transport to use for a distance of about 700 km. The learners experience the complexity of decision taking.</p> <p><b>Green Comp:</b> 2.1 Systems thinking</p>	<p><b>A Note for a Teacher:</b> In this activity the students will watch a video and take part in a voting activity for which they need a smartphone or other device.</p> <p><b>Description</b></p> <ol style="list-style-type: none"> <li>  The teacher introduces the framework of the activity. In the narrative of the scenario the students will need to travel as experts to an idyllic island, with about 1000 inhabitants, in the south of Europe. From different places in the mainland of Europe experts will travel to the island to give advice on a decision the islanders will need to take and which will change the future of the island. [At this stage the teacher doesn't reveal yet what will cause the change on the island.]           <p>The first decisions the experts will need to take is the way of transport the experts will take to travel to the island. The distance is about 700 km. (The last stage of all the ways of transport will be the ferry to the island.) Important to add is that the experts are huge fans of their national soccer team and in the period of travelling there is an important match on television.</p> </li> <li>  The students watch a short <a href="#">video with the 3 transport options</a>.           <p style="margin-left: 20px;">TEXT VIDEO <b>Sandra (car)</b> Hi guys,</p> </li> </ol>	<p>15 min</p>




*I have an offer for you. Why don't you take my old Volvo to drive to the island?  
It might take you 2 days to get there, but you can for sure have a stop to watch the game in a pub on your road.  
One thing to remember is that my car is an old Diesel, so you will have to avoid low emission zones.  
Carpooling will be a cheap way of travelling for you.*

**Jennifer (train)**

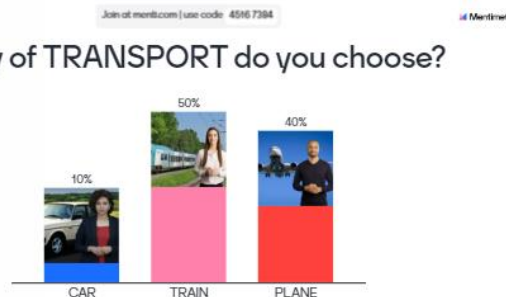
*I would definitely recommend you go by train. It will be a safe and relaxing journey. The trip takes you a full day, so you can read, play with your smartphone, sleep if you want.  
Unfortunately, I heard that the football game will not be streamed. But no problem, I would say. Our national team will play again in the future.*


**Elliot (airplane)**

*Hi there, I heard you need to travel to the island and you want to see the game in the afternoon?  
You know what? There is a flight you can catch, if you go to the airport immediately after the match.  
Flying is maybe a bit more expensive, and there might be some other disadvantages, but it is fast.*

3.  The students vote individually, without consulting the other team members, which way of transport they will use. E.g. using Tool: [Mentimeter](#).


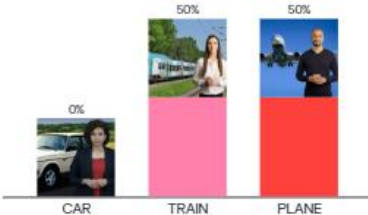


**EXAMPLE**



4.  The teacher displays the result of the voting and after this the students discuss within their teams why they have chosen for a certain option.





	<p>5.  A similar, individual voting takes place. The results of the 2 votings are compared. The teacher asks who has changed their view and chose a different option than in the first vote. The teacher summarizes the different arguments that may conflict when having to take a decision on the way of transport.</p> <p style="text-align: center;"> <small>Join at menti.com   use code 4516 7384</small>      <small>Mentimeter</small> </p> <p style="text-align: center;"><b>What way of TRANSPORT do you choose? - After discussion</b></p> <div style="text-align: center;">  <table border="1" style="margin: auto;"> <thead> <tr> <th>Transport Mode</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>CAR</td> <td>0%</td> </tr> <tr> <td>TRAIN</td> <td>50%</td> </tr> <tr> <td>PLANE</td> <td>50%</td> </tr> </tbody> </table> </div> <p> The teacher finishes the activity and, together with students, summarizes the different arguments that may conflict when having to take a decision on the way of transport.</p>	Transport Mode	Percentage	CAR	0%	TRAIN	50%	PLANE	50%	
Transport Mode	Percentage									
CAR	0%									
TRAIN	50%									
PLANE	50%									
<p><b>Activity 2. GO TO MEETING HALL</b></p> <p>The main part of this activity is a serious game with the theme of sustainability and environmental and climate issues.</p>	<p><b>Preparation for Activities:</b> The students need smartphones and/or laptops.</p> <p><b>A Note for a Teacher:</b> For this activity the students need to solve a <a href="#">Genial.ly</a> quiz and find a code which gives access to a <a href="#">Padlet</a> board. The participants doing the activity are asked to post a selfie on the Padlet board. It is advisable to remove the selfies after running the activity.</p> <p><b>Description</b></p> <p>1.  The teacher introduces the activity and explains the next step in the scenario: The experts have arrived at the island and need to find the meeting hall where the project will be announced. The teams will need to go in a virtual scavenger hunt. They need to visit 5 houses on the island and when answering the questions correctly they will receive after every visit one digit of a 5-digit</p>	25 min								





code. The correct final code will lead to the meeting hall and by posting a selfie the teams can indicate they have successfully finished the scavenger hunt.  
The questions to find the codes are all related to the theme of climate change, care for the environment and sustainability.

**TIPS**

- Ask the students to collaborate and share the work. If possible, all students use a device, preferably with a bigger screen than a smartphone.
- The Genial.ly quiz can be translated, by making use of the translate function of the browser.



Access to scavenger hunt: [Find the Meeting Hall](#)


2.  After the activity the teacher asks the teams about the group dynamics and what strategies they deployed.
3.  At the end of the activity the teacher shows a video with the [Announcement of the project](#).

**TEXT**

**Dragan – Representative national authorities**

We have an important announcement to make. We are delighted to share with you that we made a pre-arrangement with a very renowned investment company who will bring prosperity to our island. Our island will be developed and will get a modern infrastructure including a holiday resort that will attract European and global tourists. Many people will enjoy our white beaches and our stunning wild nature with its fauna and flora. This project will be for the benefit of all of us. I am a happy man.





<p><b>Activity 3.</b> <b>STAKEHOLDERS</b></p> <p>In this activity the students will have to empathize with different stakeholders involved or impacted by the project.</p> <p><i>Green Comp: 1.1 Valuing sustainability</i></p>	<p><b>Preparation for Activities:</b> In the activity the teacher shows a video and organizes a digital poll.</p> <hr/> <p><b>Description</b></p> <ul style="list-style-type: none"> <li>  The teacher shows a video with the <a href="#">Reactions of 5 stakeholders</a>. TEXT         </li> </ul> <p><b>RACHEL - local businesswoman</b></p> <p>Hi, I am Rachel. I run a small grocery shop on the island and I must say it has become hard for me to survive. As I am already 63 it is not easy for me to sell my shop and find another job. By the way, who would be interested to buy it? I hardly have any customers anymore. Many people have left the island and many also go to the mainland to the big supermarket to buy food. The construction of the holiday resort will bring more tourists to the island, which will increase the demand for groceries, of course. I am looking forward to having a steady income again.</p> <p><b>JOSEPH - retired</b></p> <p>My name is Joseph. I have lived on the island for more than 70 years. They claim that the resort will boost the local economy and create jobs for the next generation. But to be honest I fear that the building of the resort will forever change the peaceful nature of the island. I don't think the resort will bring happiness to the villagers on the island. We will get hinder from the construction of new roads and buildings. The increased tourism will lead to overcrowding and pollution. I fear that the traditions, the typical culture and the charm of the island will get lost.</p> <p><b>NIKOS - local fisherman</b></p> <p>I am Nikos. I have been a fisherman on the island all my life. More people coming to the island my result in more demand for local seafood and more income. But I think that is just theory. I think the hotel will import cheap industrial seafood. I also fear that the sustainability of local fishing is in danger. The construction of the resort will permanently affect the marine ecosystem of the island.</p> <p><b>VERONICA - mayor of the island</b></p> <p>My name is Veronica and I am the mayor of the island. Finally, some good news. People are leaving the island, especially young people. There is no future here. Economic growth is needed. With the investments there will be job opportunities for our local</p>	<p>20 min</p>
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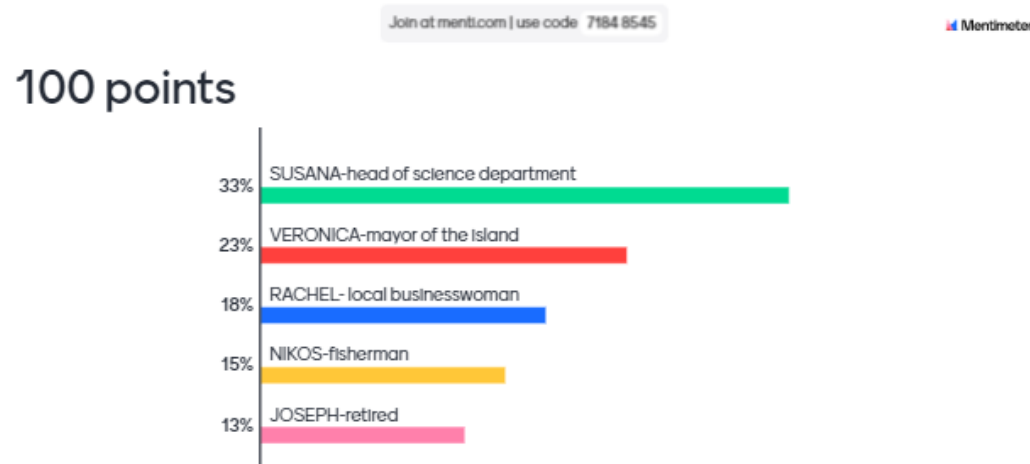
people. Now many of us need to take the ferry and drive to the mainland every day. The increased tourism will bring more revenue to the island, which can be used to improve the public services and infrastructure. We are convinced that we will maintain the natural beauty of the island and our unique culture and way of life. The resort will only affect a limited part of the environment of the island.

**SUSANA – head of science department**






I am Susana, head of the science department at the university. We are convinced that the planned developments on the island with the building of the resort and the necessary infrastructure that comes with it, will be an environmental disaster. The construction will damage the island's natural environment and biodiversity and it will lead to irreversible ecological damage. The increased tourism will result in a greater carbon footprint due to transportation and energy use and have a negative effect on climate change.

-  The teams discuss the different arguments of the stakeholders. [If needed they can [rewatch and/or reread](#) the arguments of the stakeholders.]. The different teams distribute 100 points over the 5 stakeholders to indicate who according to them has valuable arguments.
-  After the group discussions the teams share their result. The teams send their result to [Mentimeter](#) and this will result in an aggregated score of all the groups.



**EXAMPLE**








<p><b>Activity 4.</b> <b>PREPARATION PITCHES</b></p> <p>The teams prepare advice for the islanders, based on a complexity of data.</p> <p><b>Green Comp:</b> 1.3 Promoting nature 2.2 Critical thinking 2.3 Problem framing</p>	<p><b>Preparation for Activities:</b> In this activity the participants will create a group pitch. For this they use two slides from this <a href="#">slide deck</a>. The teacher needs to make a copy and assign a number to the different teams.</p> <p><b>A Note for a Teacher:</b> In this activity the participants will create a group pitch. For this they use two slides from this <a href="#">slide deck</a>. The teacher needs to make a copy and assign a number to the different teams.</p> <p><b>Description</b></p> <ol style="list-style-type: none"> <li> The students will start preparing their final pitch to give advice as experts. The advice will be based on their personal judgement, but also on scientific arguments.</li> <li> The teams will read some documents. The activity will be organized as a jigsaw. Each group member receives a different colour (Yellow, Green, Blue, Red). In the first phase of the jigsaw the students will join students of other teams who have the same colour as they have. The number of these groups is flexible (preferably 3). During this time they read a short document and 2 longer reads. In these <i>colour groups</i> the members take the read and to discuss with each other the main content and arguments. <ul style="list-style-type: none"> <li>● Links: <a href="#">Yellow</a> - <a href="#">Blue</a> - <a href="#">Green</a> - <a href="#">Red</a></li> </ul> </li> <li> After the reading and discussion session, all students return to their initial groups. In turns they share what they have read and what could be important to add to the final pitch.</li> <li> The teams prepare their final pitches. They need to come up with a final advice for the project. They will support fully or partly one or more of the stakeholders. They need to describe and give arguments how the future of the island will look like.</li> </ol> <p> For the preparation of the pitch each team can use 2 slides: one with KEY THOUGHTS and one with FINAL CONCLUSION. On each of the slides the team adds a few bullet points as a reminder during the actual pitch. [The teacher assigns a number to each of the teams.]</p>	<p>35 min</p>
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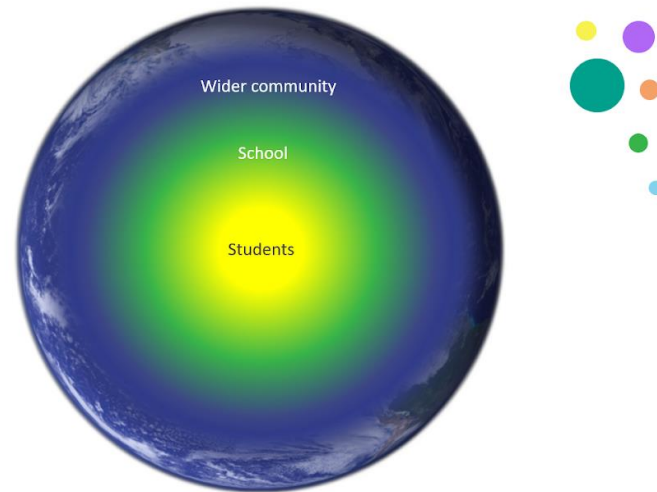
Consolidation		
<i>The teams present their final advice as invited experts.</i>		<b>Estimated Duration</b>
<p><b>FINAL PITCHES</b> The teams present their advice for the future of the island.</p> <p><i>Green Comp: 3.1 Futures literacy</i></p>	<p><b>Preparation for Activities:</b> In this activity a slideshow will be presented.</p>	25 min
	<p><b>Description</b></p> <ol style="list-style-type: none"> <li>1.  The teams present their final pitches. If there is time, the members of the other teams can ask critical questions after each pitch.</li> <li>2.  Another suggestion could be to organise a poll for the most convincing speeches.</li> </ol>	



Follow-Up		
<b><i>Reflection on the activities and on the impact on the personal lives of the participants.</i></b>		<b>Estimated Duration</b>
<p><b>Activity 1. REFLECTION</b> The students leave their roles of experts in the scenario and reflect on their experience and on what they have learned. They also reflect on their personal lives.</p> <p><b>Green Comp:</b> 1.1 Valuing sustainability - 4.3 Individual initiative</p>	<p><b>Preparation for Activities:</b> Provide paper and pens</p> <p><b>Description</b> The teacher makes clear that the scenario is finished and that the students will reflect on the lesson and on what they have learned.</p> <ol style="list-style-type: none"> <li> The reflection will be done using the format of <u><i>Two Stars and One Wish</i></u> (see Handouts). This activity can be done individually or in groups. The students write down two things they liked about the scenario (<i>Stars</i>) and one thing that could be improved (<i>Wish</i>). After the reflection the results are shared in plenary.           <ul style="list-style-type: none"> <li>The students reflect on their personal lives. What did they learn from the scenario that relates to their personal behaviour. Is there something they want to do to be more sustainable and to protect the environment and climate. After the reflection the results are shared in plenary.</li> </ul> </li> </ol>	20 min
<p><b>Activity 2. Reflection on teacher practice</b> This is an activity aimed at helping reflection (individually and/or with colleagues) on how the</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>	



previous activities contribute to developing sustainability 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, or engage in active listening to others



- 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



- Suggested answers



- a short note for a teacher



- a group exchange





## Worksheets and Links

### Development

#### Activity 1 Transport

-  [Transport Options](#)

#### Activity 2 Meeting Hall

-  Access to scavenger hunt: [Find the Meeting Hall](#)
-  A video with the [Announcement of the project](#).

#### Activity 3 STAKEHOLDERS

-  The video with the [Reactions of 5 stakeholders](#).

#### Activity 4. PREPARATION PITCHES

-  [Slide Deck](#)

### Follow-Up

#### Activity 1 REFLECTION

- Worksheet  [Two stars One wish](#)



## 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>	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: 2.1 A Sustainable Europe. 2.2 Sustainability and Digitality. 2.3. Sustainability and Environmental Education. 2.4 Climate Crisis Resilience. 2.5 Dealing with Climate Disinformation. 2.6 Green Citizenship in/for Europe. 2.7 Sustainable Entrepreneurship Education.
<b>2: Competency Areas</b>	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
<b>3: Networking &amp; Bundle Expertise</b>	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.
<b>4: Working through the design process</b>	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.
<b>5: ASSESSMENT DESIGN</b>	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.
<b>6: PUBLISH TO TAP-TS PLATFORM</b>	Can you and where can you publish your materials under a Creative Commons license as free as possible. Because that is sustainable!



**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

**REFLECTION FOR ACTION**

**LEARNER CENTERED & INCLUSIVE**

**TRANSFORMATIVE**

**TEACHING SUSTAINABILITY**

**ACTION-ORIENTED**

**ENTREPRENEURIAL**

**HANDS-ON**

**REINFORCING COLLABORATION**

**INTERDISCIPLINARY**

**EXPLORATIVE**

**VISIONS-ORIENTATED**

**PARTICIPATIVE**

COLLABORATIVE PRO... TS

FUTURE WORKSHOP

DISCUSSIONS

REFLECTION

RESEARCH & ANALYSIS

# ROADMAP Developing TAP-TS Materials

7

**SHARE**

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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.

There is no ONE right answer! Give TS an important place in curricula and implement credits, badges or awards for it.

5

**DO IT! HAVE FUN! DISCUSS! BE CREATIVE!**



# 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



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