

R2. A1.2 PRACTICAL ACTIVITY TEMPLATE

Title	Zero-waste boats
Part of the training course referred to in this lesson	<p>X Part 1 General information about sustainability and CE</p> <p>Part 2 Specific Information about:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Wood sector <input checked="" type="checkbox"/> Plastic sector <input checked="" type="checkbox"/> Agrifood sector
Duration	<p>1 week for the initial research and development of the idea</p> <p>1 week for the realization of the boat</p> <p>2/3 days for presentations (depending on the number of groups)</p>
Location	<p>X Outside</p> <p>X Inside</p>
Specific location requirement	//
Equipment needed	<p>The following list is just an example of the waste materials that can be used to build a model ship:</p> <ul style="list-style-type: none"> ● Plastic bottles ● Corks ● Straws ● Wooden sticks of ice cream ● Cardstock ● Finished rolls of paper towels or toilet paper <p>Other useful materials might be:</p> <ul style="list-style-type: none"> ● Scissors ● Tape ● Rubber ● Pencils ● Twine and rubber bands
General Learning objective(s) according to the Bloom Taxonomy https://cft.vanderbilt.edu/guides-sub-pages/bl	<p>X Create Produce new or original work (design, assemble, construct, investigate, formulate)</p> <p><input checked="" type="checkbox"/> Evaluate Justify a stand or decision (appraise, argue, defend, critique, select, support)</p>

<p>ooms-taxonomy/</p>	<p><input type="checkbox"/> Analyze Draw connections among ideas (differentiate, organize, relate, compare, distinguish, test, experiment)</p> <p><input type="checkbox"/> Apply Use information in new situations (execute, implement, solve, use, demonstrate, operate)</p> <p><input type="checkbox"/> Understand Explain ideas or concepts (classify, discuss, describe, identify, locate, translate)</p> <p><input type="checkbox"/> Remember Recall facts and basic concepts (define, duplicate, list, memorize, repeat)</p>						
<p>Specific learning objective(s)</p>	<ul style="list-style-type: none"> ● Learn to reflect on the topics learned during the first part of the course (circular economy, recycling, reuse, etc.) ● Creative thinking and innovation ● The ability to think out of the box and rethink sustainable consumption models to be applied in other areas ● Learn, through a creative process, to create a model of a ship ● Learn about the environmental impact of boats on oceans 						
<p>Cognitive, socioemotional and behavioural outcomes based on https://www.unesco.org/sites/default/files/2018-08/unesco_education_for_sustainable_development_goals.pdf</p>	<p>SDG 4 “Quality education”</p> <p><u>Behavioural objectives:</u> The learner is able to contribute to facilitating and implementing quality education for all, ESD and related approaches at different levels.</p> <p>SDG 13 “Climate Action”</p> <p><u>Cognitive learning objectives:</u> The learner knows which human activities – on a global, national, local and individual level – contribute most to climate change; The learner knows about prevention, mitigation and adaptation strategies at different levels (global to individual) and for different contexts and their connections with disaster response and disaster risk reduction.</p> <p><u>Socio-emotional learning objectives:</u> The learner is able to collaborate with others and to develop commonly agreed-upon strategies to deal with climate change; the learner is able to understand their personal impact on the world’s climate, from a local to a global perspective; the learner is able to recognize that the protection of the global climate is an essential task for everyone and that we need to completely re-evaluate our worldview and everyday behaviours in light of this.</p>						
<p>Green skill(s) addressed</p>	<table border="0"> <tr> <td>X Creative problem-solving</td> <td>X Management skills</td> </tr> <tr> <td><input type="checkbox"/> Forward-thinking</td> <td><input type="checkbox"/> Impact quantification</td> </tr> <tr> <td><input type="checkbox"/> Monitoring skills</td> <td><input type="checkbox"/> Life-cycle management</td> </tr> </table>	X Creative problem-solving	X Management skills	<input type="checkbox"/> Forward-thinking	<input type="checkbox"/> Impact quantification	<input type="checkbox"/> Monitoring skills	<input type="checkbox"/> Life-cycle management
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	<p><input type="checkbox"/> Analytical skills</p> <p><input type="checkbox"/> Lean production</p> <p>X Maintenance and repair skills</p> <p><input type="checkbox"/> Pollution prevention</p> <p>X Eco-design</p> <p>X Science skills</p> <p>X Waste management</p> <p><input type="checkbox"/> Environmental auditing</p> <p><input type="checkbox"/> Ecosystem management</p> <p>X Other: Creative recycling</p>
<p>Step by step instructions to implement the activity</p>	<p>Please, consider this description as guidelines you can follow to implement the activity but feel free to adapt it to your own needs.</p> <p>Step 1: Preparatory work – creation of the groups</p> <p>The class should be divided into groups of 2/3 people by the teacher. This will ensure that everyone will have the opportunity to participate properly in the activity.</p> <p>Step 2: Preparatory work – explanation of the activity</p> <p>The teacher should explain to students the activity and the main parts a boat is made of it. Each group will have to invent a "zero-waste" boat and build a model of it with waste materials. They will be completely free in the creative process, without any limits to their imagination. They will be asked to use their creativity and the knowledge they acquire within the TREE training programme (e.g. on Circular economy, sharing economy, sustainable materials, etc.) in order to invent a boat, to describe it during a presentation in front of the class and to create a physical small boat model.</p> <p>Step 3: Creation of the boat</p> <p>Starting from data on oceans/water pollution, students will be able to develop the idea for their boat by researching innovative methods for recycling, which they will apply to the naval context, and reducing boats' impact on the environment. With their research and inventiveness, they will have to make their ship with zero environmental impact, providing methods for recycling, avoiding waste, using sustainable materials, etc. Each group will be asked to prepare a final presentation, explaining the main characteristics of their boat. If they wish, they can also create a PowerPoint presentation with it, but it is not mandatory. Each group will be also asked to develop a small model (or if the time is limited, they can also create drawings) of their boat using waste materials. The teacher will support students throughout the process of developing their work.</p> <p>Step 4: Final presentation</p> <p>During the final presentation, each group will share the information about their boat to the class and to the teacher, through the oral presentation (it is recommended to set a limit of 10-15 minutes) and the boat model/drawing. At the end of the presentation, there will be a Q&A (Questions & Answers) session in which students will have to answer questions from their audience.</p>

<p>Assessment tool / methodology</p>	<p>At the end of the activity, it is important for students to have a common reflection on what emerged from this activity and what they learned. The reflection can be guided by the teacher with questions such as:</p> <ul style="list-style-type: none"> ● What did you appreciate most about this work? Why? ● What did you appreciate the least about this work? Why? ● Did you feel heard by your team while developing the work? ● Do you think that this activity has helped you improve some green skills? Which ones? ● Do you think that this activity has helped you improve some soft skills? Which ones? <p>The teacher can then evaluate the final paper and the students' display of the presentation, taking into consideration, among others, the following factors:</p> <ul style="list-style-type: none"> ● correctness and completeness of information ● teamwork and cooperation ● clarity of exposition ● inventiveness
<p>Additional resources</p>	<p>At the following link, some ideas on how to design a boat model can be found:</p> <ul style="list-style-type: none"> - https://www.pinterest.it/pin/540783867742867712/ - https://www.instructables.com/How-to-make-a-toy-boat-from-recycled-material/
<p>Source</p>	<p>//</p>