

## Problem Analysis Tree

*This method is used to analyse a problem deeply to understand its root causes but also possible resulting effects of these causes on various people or the environment. In this way the tree helps to find solutions by mapping out the anatomy of cause and effect with a structure and by breaking it into smaller parts. In addition to this Digital Destiny principle, this activity supports Learning Through Thinking and Learning Through Dialogue and interaction and Learning Through Reflection and Evaluation.*

### Expected Outcomes – students will:

- ✓ Be able to explore the causes of an examined problem.
- ✓ Be able to set criteria for examining problems.
- ✓ Be able to demonstrate listening to each other actively and respecting others' perspectives.
- ✓ Be able to think of solutions to problems and the impact of these solutions to various levels and contexts.
- ✓ Be able to be actively involved in a debate (show active listening to others and building arguments to support their opinion).

### Timing

The minimum amount of time you should plan for is 60 minutes.

### Material

Offline	Blended
<p>Create one large visual space (Board or large paper) to collect small group (or plenary) ideas.</p> <p>Create an additional visual space for the last step of the process.</p>	<p>Create one digital space to collect small group ideas. Use <a href="#">Miro</a> which already have a tree template.</p> <p>Alternatively, you may upload a picture of a tree (prefer a black/white or not fully colored tree) on these platforms as a background.</p> <p>Create an additional digital space for the last step of the process. It is going to be simpler, so you may also use <a href="#">Padlet</a>.</p> <p><a href="#">More info on the tools?</a></p>

## Prepare yourself!

- Draw a basic image of a tree on a big piece of paper or look for a tree image online and upload it on the blended learning platform of your choice.
- Select a news piece or a photograph as the basis of your activity.

### Blended

- Create a Padlet space or a second visual space for the last step.



## Step-by-step

Begin by deciding the problem or issue you wish to work with. We suggest you consider the following:

- *Students' prior knowledge and experiences*
- *Students' cultural and social background*
- *Local context (e.g., historical background, economy elements, landmarks, etc.).*

A Problem Analysis Tree is a tool for analyzing a problem deeply. Select a problem that may lead the students to exploring a wider perspective and understanding of something. For example, select news posts which can be directly related to SDGs (e.g., melting of glaciers, a big forest tree). Also, you may select a picture (photograph) from the news as a trigger.

### 1. Preparation

*You will need about 5 minutes for this step. Read out the news piece or show the picture to the students (on screen). Ask the students to think about it for 2-3 minutes.*

Suggestion: It is recommended that you begin with the Empathy Map [working method](#) and then proceed to this method, after having established the problem.

### 2. Brainstorming

*You will need about 5 minutes for this step.*

Ask the students to brainstorm for 3-5 minutes freely, expressing what the overall problem connected to the trigger (e.g., the news article or photograph you selected to introduce the problem) is. Justification of their points are not required at this point.



Try to group the expressed ideas to form small groups of 2-4 students based on their choices. You may form groups according to the similarity of their first brainstorming statement or groups with different initial understanding of what the problem is to enhance interaction and debate within the groups.

### 3. Small groups

*You will need at least 15 minutes for this step.*

Briefly explain the Problem Tree structure.

*The trunk of the tree corresponds to the problem and all the sub-problems connected or emerging from it. For example, limited access to running water as a problem leads to survival problems, hygiene problems, limited production opportunities, etc.*

*The roots of the tree correspond to the causes of the problem. As the roots are not visible, in the soil, they may go deep and be closely or loosely connected to the problem. A good method to explore the “roots” is to ask questions starting with “Why...”. For example, “Why is not having clean water a hygiene problem?”, “Why might there be limited access to running water in an area? (For example, not raining or snowing enough, not close to a river, etc.)” ...*

*The branches and leaves of the tree correspond to results of the causes of the problem and their impact on those facing the problem, the community they are part of, or even the society. For example, “Free access to water may reduce diseases”, “Irrigation may solve the water problem but may cause landslides if not done properly”.*



Form small groups of 2 – 4 students. Each group takes 10 minutes to fill in a Problem Tree for the identified problem. Depending on the age and number of your students, also consider the option of having this step done in plenary.

**Suggestion:** Be prepared to facilitate by asking provoking questions if you see limited group activity.

### 4. Plenary

*You will need at least 20 minutes for this step.*

Allow 2-4 minutes to each group to present their problem analysis approach and the root causes that they came up with. Use 5-10 more minutes in the end for a collective plenary discussion, commenting upon the problem causes which were mentioned. Here it is very important to help the students see a difference

between a root cause of a problem and the “effects” of a problem found in the branches of the tree.

*Allow 5 minutes for the students to reflect upon the discussion.*

## 5. Problem statements

Look at the Problem Statement [working method](#) and use it as it is to formulate clear statements of the problem.

## 6. Self-reflection

*You will need at least 15 minutes for this step.*

Ask the students how they feel after analyzing the problem. Have them, one by one, share which aspect of the problem made the biggest impression on them and why. If the students are younger, you may provide categories and ask them to use a happy or a sad face for each category (e.g., how significant the problem is, how the environment is affected by the problem, how the students’ lives may be affected by the problem, etc.). If the students are older, they may formulate their thoughts freely.

## 7. Consider next steps

After completing the previous steps, your students should have gained new insights on a given problem and be able to express it through a series of problem statements. Use the new insights as a foundation for building a project through which the student will be asked to solve the problem, selecting a specific perspective (e.g., personal, family, community, or society impact).

## 8. Bring it home

If you follow a blended learning approach, you may ask the students to complete the inquiry part of step 3 with the support of their families.

Alternatively, you may ask the students to interview their families about the problem and use their notes for completing the task. The interview should include questions about the problem, its roots, and the impact of the solutions.

**Suggestion:** follow this approach if the problem is directly connected to the local community (e.g., migration if significant immigrant populations live in the area, pollution if power plants or other factories are the main source of income for the local community).

Also, the families can be asked to provide feedback for the proposed solutions in the end.