Workshop 2: The Forest Cleanup

Ages 12-15

LEAF Theme(s)

ECOSYSTEMS, FORESTS & BIODIVERSITY

BioBeo Theme(s)

Outdoor Learning

Inter-connectedness

Teacher Instructions

The students learn about the dangers of human influence on nature, specifically focusing on what various types of garbage do to the ecosystem. In pairs, the students will clean up litter in the park. Afterwards, they will gather to weigh, analyze, and recycle the waste. The collected plastic can be used during other lessons to create art.

Learning Objectives

- At the end of the workshop, students will know more about the dangers that litter poses to nature.
- At the end of the workshop, students will know how to efficiently clean up litter on their own.
- At the end of the workshop, students will know how to separate waste and understand the benefits of doing so.

Starting the workshop

Inform students about the workshop's timeline, consisting of three parts:

Game Format: Processing information about litter

This activity is a great example of Step 2: Explore of the LEAF Pedagogy!

Before starting the game, distribute the student materials and briefly explain to students why litter is a significant problem. Make students aware of their own contributions by asking if they have ever discarded anything in nature. You can use examples like banana peels (1 year), chewing gum (25 years), and cans (50 years) to illustrate how long it takes for nature to break them down. After this introduction, ask students to form pairs (exceptionally trios). In these pairs, they receive twelve laminated cards (see attachment 1) about the dangers of litter. Six of these cards feature images, and the other six contain texts. In pairs, they must match the cards to

This lesson was developed by Rotterdam University of Applied Sciences for the BioBeo project and subsequently adapted for the Learning about Ecosystems and Forests (LEAF) programme.

each other. Once they have done this correctly, they proceed to determine which dangers they believe are most and least impactful on nature. The top card is the most impactful, and the bottom card is the least impactful. It is crucial that they discuss their choices with each other. The most important card receives five points, and the least important card receives 0 points. Cards in between receive one, two, three, or four points in terms of position. After completing this task, you discuss the order together. Each pair states the order they have chosen and defends their choices. As a teacher, actively participate by asking questions. Ultimately, the students note the points per card per pair. This process leads to creating an order representing the group's consensus on the most and least impactful aspects of litter on nature. As a teacher, you can also keep track of points on a whiteboard and remind students that they can use this information for the market day.

Collecting litter in the forest

Before distributing the supplies, it is essential to outline the rules for collecting litter. Students will autonomously collect waste using various tools. First, agree on the time when students should return to the designated location. Then, explain where students are allowed to collect trash, considering they have already taken a walk through the area. It is also essential to go through the supplies and provide instructions on how to use them, such as explaining how the trash picker works and how to attach and detach a garbage bag from the holder. As a teacher, it is important to explain the rules. Inform students that if they find something that doesn't seem like typical litter, they should inform the teacher. We want to avoid students coming into contact with potentially dumped hazardous waste. Additionally, emphasis that students should not take litter from each other or retrieve items from trash bins. They must also adhere to the rules applicable in the forest or park, which were explained at the beginning of the day by a forest ranger or one of the teachers. During the litter collection, you can actively participate or stay at the designated location. This choice should have been discussed with students in case they need your assistance. At the agreed-upon time, the pairs return to the designated location, and you can proceed to the next phase.

Weighing and sorting collected litter

Be enthusiastic and interested in the students' findings. Take some time to listen to the stories students want to share. After talking to students individually, address the entire group. Ask them to detach the garbage bags from the bag holders. Then, ask pairs to step forward one by one with their garbage bags. Use the hanging scale to determine how much each pair has collected. Let them record the weight per pair on the whiteboard. After all pairs have presented, they calculate the total weight. It can be fun to take a photo together with the end result. Once this part is completed, work together with students to sort the litter. Four trash bags will be used for this purpose: plastic, metal, cardboard, and general waste. Students may encounter objects they cannot identify regularly. As a teacher, actively assist and refer to their booklet, which includes a list of objects they can use as a guide. Once the task is complete, inform students that the collected plastic will be used in another workshop during the project week. Other items can be discarded at a chosen location. Since the work can be messy, some students may want to wash their

hands despite wearing gloves. As the workshop takes place outdoors, there may not be a place for this. Therefore, bring disinfectant hand gel that students can use, and remind them to do so. In the attachments is a document that will help students properly separate and sort waste.

Supplies needed

- Trash pickers
- Garbage bags
- Trash bag holders
- Cleaning or gardening gloves
- Hanging scale
- Laminated game cards
- Whiteboard and pencil
- Disinfectant hand sanitizer

Student instruction

In today's lesson, we're going to talk about how the things we throw away can harm nature. We'll focus on cleaning up a park together in pairs to see the impact of litter on the environment. After the cleanup, we'll gather to weigh, look closely at, and recycle the garbage we've collected. The plastic we find can even be used later on to create cool art during other lessons! Get ready for a hands-on adventure!

Learning Objectives

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Processing information about litter

Step 1	You will determine the dangers that litter poses to nature. Try to match the six images with the six texts you have received. Have you connected the cards to each other? Ask the teacher if everything is correct!
Step 2	Decide which text card your group finds the most concerning and which one you find the least concerning. You should be able to explain this to your classmates and the teacher. Then, arrange the text cards in order from most to least important on the corresponding worksheet.
Step 3	Report this to the teacher, who will keep score on a whiteboard. Ultimately, this will help your group determine which consequences of litter in nature are considered the most significant.

Collecting litter in the forest

You will collect litter in the area agreed upon with the teacher. Make use of the tools provided. If you come across litter that you don't trust, leave it and inform the teacher. Before you go collecting write down the agreed-upon time, so you won't forget. On the next page you'll find all the information you need for this assignment.

Tools

Waste grabbers Use these to pick up garbage that you do not want to touch with your hands.	1 piece	
Trash bags Use these to collect waste. Be cautious with sharp objects as they may cause the bag to tear easily.	2 pieces	
Trash bag holders Use these to keep the trash bag open and to carry it more easily.	1 piece	
Gardening gloves Wear these if you prefer using your hands.	2 pairs	

The area where you are allowed to search

Post a photo of Google Maps of the area where the students are allowed to go.

Important rules

Rule 1:	Stay within the agreed-upon area.
Rule 2:	Be back at the agreed-upon location on time.
Rule 3:	Handle the tools you have been provided with care.
Rule 4:	Do not retrieve waste from the trash bins.
Rule 5:	Do not pick up hazardous waste; if you encounter any, call the teacher.
Rule 6:	It's not a competition, so just enjoy the task at hand.

Hazardous waste

Some waste is hazardous and may contain harmful substances. It is crucial to be aware of the dangers and to be able to recognize them if you come across such items. Below are some images of hazardous waste. If you encounter any, do not pick it up; instead, approach the teacher for assistance.

Weighing and sorting collected litter

Great, you've collectively collected a lot of litter, and you're back at the agreed-upon time! Fill in here how many grams you've gathered together. The teacher has a hanging scale that you can use. After weighing, you will join the other students in sorting the waste (wear gloves and clean your hands afterwards). There are five bins provided for this purpose: plastic, cardboard, iron, organic waste, and glass. The teacher will give you a document that will help you properly separate and sort waste. Please separate the waste as accurately as possible because we will be using some materials during the project week!

Number of grams

Attachment 1: Gamecards

Environmental damage

Littering causes direct harm to the environment. Materials such as plastic, glass, and metal can break down slowly, leaking toxic substances into the soil and water. This has negative consequences for the quality of the soil and waterways.

Animal suffering

Animals can get entangled in or ingest litter. Plastic items such as bags, nets, and rings can be deadly when animals become trapped in them. Additionally, animals may mistake plastic for food, leading to internal injuries, diseases, and ultimately death.

Disruption of ecosystems

Litter can disrupt entire ecosystems. It can disturb the natural balance by influencing the food chain and the habitat of various species. This can ultimately lead to a decrease in biodiversity.

Water pollution

Litter in waterways can lead to water pollution. Plastic waste breaks down into small particles, known as microplastics, which are very difficult to remove and can be harmful to aquatic organisms and even human health if they enter the food chain.

Fire hazard

Some types of litter, such as glass and cigarette butts, can cause fires in dry areas. This can lead to the loss of natural habitats and pose a threat to plant and animal species.

Recreational damage

Litter makes natural areas less appealing for recreation and can mar the natural beauty of landscapes. This not only impacts tourism but can also lead to reduced human well-being in the natural environment.

https://www.wykepotjer.nl/plastic-soup-atlas-we-maken-er-een-puinhoop-van/

Attachment 2: Sorting sheet gamecards

What dangers of litter do we consider the most serious?

Arrange the cards in the correct order. Discuss with your classmate about which dangers of litter you find most and least severe. The most severe card gets 5 points (at the top) and the least severe card gets 0 points (at the bottom).

We find the worst **5** Points	We find very severe **4** Points	We find severe **3** Points
We find less severe **2** Points	We find a bit severe **1** Point	We don't find it too severe **0** Points

Attachment 3: Sorting aid for separating and sorting waste