

WASTE WATER TREATMENT PLAN VISIT

part of **GreenGate Methodological Toolkit₂**

Created within the project GreenGate₂.

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Waste Water Treatment Plant Visit

INTRO

What if the water you flush today ends up in your tea tomorrow? Treatment plants can handle a lot, but not everything - microplastics, phosphates and chemicals from cosmetics, cleaning products and pharmaceuticals often end up back in rivers and then in drinking water. This excursion will show what the plant can and cannot capture and - most importantly - what each of us can change to make the water we use really clean.



- Aim:**
- Understand how wastewater is treated and purified before being released back to the environment.
 - Explore the impact of cosmetics and cleaning products on water pollution.
 - Learn about ways to reduce harmful waste in household wastewater.

Tools: ▷ printed worksheet (appendix) for each participant

MOTIVATION

- Discuss how cosmetics, cleaning products but also medication and supplements enter water systems (e.g., washing hands, showering, doing laundry, consuming).
- Explain common pollutants in these products (microplastics, phosphates, parabens, synthetic fragrances, hormones, antibiotics, etc.).
- Predict what happens to these pollutants in a water treatment facility.

For more information, click here:

<https://green-gate.eu/blog/category/harmful-ingredients/>



EXCURSION SCHEDULE

- The proposed timetable should be discussed with the WWTP lecturer and adjusted according to his suggestions.
 - Prior to the start of the excursion, distribute a printed worksheet (appendix) to each participant.
- 1. Arrival & Introduction (15 min)**
 - Welcome by the plant staff.
 - Brief explanation of the plant's role in cleaning wastewater.
 - Safety instructions to participants.
 - 2. Tour of the Water Treatment Process (60 min)**
 - **Step 1: Screening & Filtration** – Large debris (plastics, wipes, etc.) removal.
 - **Step 2: Primary Treatment** – Separation of solid waste (sludge) from liquid waste.
 - **Step 3: Secondary Treatment** – Bacteria break down organic matter.
 - **Step 4: Tertiary Treatment** – Removal of some chemicals, toxins, or partial microplastics.
 - **Step 5: Discharge & Reuse** – Cleaned water is discharged.
 - 3. Q&A time (30 min)**
 - Students ask prepared questions from the worksheet in Appendix and discuss findings.
 - 4. Reflection Activity (15 min)**
 - Group discussion on how to reduce cosmetic and cleaning product pollution at home.

FOLLOW-UP ACTIVITIES

- **Reflection Writing:** What surprised you? Is there any plastic in our cosmetics products? What happens to microplastic when you rinse your make-up or shampoo? Is water from WWP really clean? Is there anything that you will change about your habits?
- **Research Alternative Products:** Clean “swap” -find eco-friendly alternatives for common cosmetics and cleaners, Compare common cosmetic or cleaning product with a eco- friendly alternative - “What a difference!”

The format is up to you - it can be a few lines, a presentation, or even a multi-page seminar project. The key is to reflect on what the participants have seen and understood.



- **Awareness Campaign:** Create posters or social media content about reducing water pollution.
- **Research project:** Prepare a model of a water filtration station - you can be inspired by the activity *Water Filtration* from this toolkit.



Appendix Worksheet for participants

Hey hey! 🙌 While you're cruisin' through the tour, keep those ears wide open and try to catch the answers to a few lil' questions below. 🤖 If your brain's like "uhhh... no clue," don't stress - there'll be a quick Q&A at the end of the tour where you can ask for more answers and anything else you are curious about. 💬 ✨

What Happens to Water After It Goes Down the Drain? 🚰 🌍

- How much dirty water gets treated every day? 💧 ⚙️
.....
- What happens to all the solid waste filtered out of the water at the plant? 🗑️ ♻️
.....
- What kind of chemicals are removed from wastewater? 🧴 🚫
.....
- Which chemicals is it not possible to remove? 😬 🧴
.....

How Do Beauty & Cleaning Products Affect Water? 🧴 🚰

- Can water treatment plants remove microplastics? 😬 🌱
.....
- What happens to shampoos, soaps, and detergents after they go down the drain? 🧴 🔄
.....
- Why are phosphates in detergents bad for the environment? 😬 🌱
.....
- What simple things can we do at home to help keep water clean? 🏠 💙
.....

Bonus Question: 💡 What's one small habit change that can make a big impact on water pollution? 🌍 ✨
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Draw the wastewater treatment process on the backside: