

# Pollution and the Watershed

Hanford Mills Museum Activity Guide

*Recommended for Grades 2-5*



*Image courtesy of National Institute of Environmental Health Sciences.*



## What is Pollution?

**Pollution** is the addition of harmful substances or energies (**pollutants**) that causes damage to at least one part of that environment. Pollution can include litter, chemical substances, sewage, and even light and sounds. Sometimes this pollution is visible (like litter), and sometimes it is invisible (like chemicals that you can't smell or see).

*Image courtesy of Environmental Protection Agency*



## **Pollution and Watersheds**

In this activity, we are going to focus on **water pollution** and its impact on our watersheds. A **watershed** is an area of land where water collects and drains into a river, lake or reservoir. We want to keep our watersheds clean so that we can safely drink our water!

Since many of us in Delaware, Green and Schoharie Counties live within the Catskill-Delaware Watershed system (also known as the West-of-Hudson Watershed), our watershed network provides the water not only for the Catskill region but also New York City.

**How long does it take for pollution to go away?** Depending on the material, it can take anywhere from a few weeks to over one million years for pollution to break down or decompose. Cleaning up this pollution before it causes problems can be expensive and difficult, especially separating chemicals that mix and dissolve into water.

**Water is hard to clean.** Even with the best equipment, cleaning is time consuming and expensive. The best way to keep pollutants out of the water is to keep it clean in the first place:



- Reduce your waste by only using what you need.
- Reuse materials and buy reusable products.
- Recycle as much as you can.
- Make sure that your trash goes to the proper waste disposal location and doesn't become litter.

## **Activity: Trying to Clean Up Water Pollution**

**NOTE:** This activity can get messy.

In this activity, you are going to create water pollution and then experiment with tools to see how well you can clean up the pollution.

### **Materials:**

- Large bowl or tray
- Smaller bowl
- Spoon
- Fork
- Strainer
- Clean water
- A few tablespoons of crushed up crackers or other food
- A few drops of liquid soap
- A few tablespoons' worth of small pieces of paper
- Clock or timer
- Towel (cloth or paper)

**Instructions:**

1. Pour water into the big bowl. Add crushed up crackers/food pieces, liquid soap, and pieces of paper to pollute the water.



2. Set a timer for 10 minutes (or watch a clock).
3. Use the fork, spoon, and strainer to clean up the water as much as you can. When you remove the pollutants from the water, place them in the second, smaller bowl so it makes less of a mess.



4. When the 10 minutes is up, place your tools down on the towel. Look at the water and how much pollution you were able to remove. How does it compare to the original clean water and the polluted water? Is this water still polluted?



**For more resources about pollution:**

*National Geographic.* "Pollution."

<https://www.nationalgeographic.org/encyclopedia/pollution/>.



## Water Pollution Worksheet

Name:

Which pollution was easy to clean up with your tools?

Which pollution was more difficult to clean up?

Is this water still polluted? What other tools could you use to clean up more of the pollution?