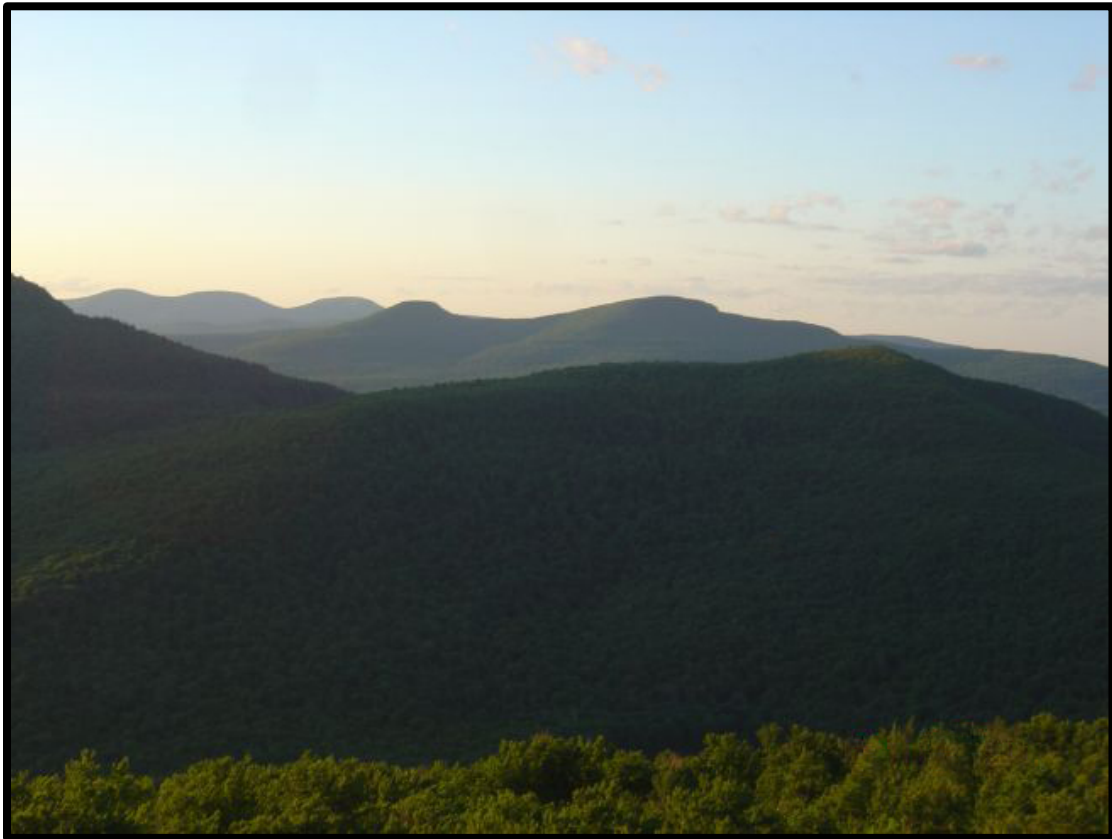


# Forests and Water Health

Hanford Mills Museum Activity Guide

*Recommended for Grades 4-8*



*The forests in the Catskill Mountains help to keep New York State's water clean. Image courtesy of Wikimedia Commons.*



## **How do forests clean our water?**

Trees and forests help to clean our water and protect our watershed:

1. Trees and plants slow the speed of storm water traveling to rivers and lakes. This helps to prevent flooding.
2. Tree roots help soil to stay in place, which can prevent erosion, or breaking down and washing away of soil.
3. Tree roots, along with the soil and plants in a forest, help to filter out pollutants like litter and harmful chemicals.



*Tree roots help to filter water and prevent erosion. Image courtesy of Wikimedia Commons.*

## Why are forests so important to watersheds?

**A watershed** is an area of land where water collects and drains into a river, lake or reservoir. Much of Delaware, Greene and Schoharie counties are part of the West-of-Hudson watershed network.

The West-of-Hudson watershed has so many trees that we don't need to filter our reservoir water before we drink it, and we have enough clean water that we can share it with people in New York City. Over nine million people drink the water from the Catskills! The more we protect our forests, the more we protect our water.



*The Ashokan Reservoir is one of the bodies of water that supply clean water to New Yorkers. Image courtesy of Wikimedia Commons.*

## Tree Filter Experiment

In this activity, you will experiment to learn how filters (like trees) impact water quality.



### Materials:

- Glass of clean water
- Funnel or plastic bottle cut in half (**please ask an adult to help you if you need to cut a bottle!**)
- Bits of torn-up paper towel (a few tablespoons' worth)
- Spoon
- Coffee filter or paper towel
- Basin or large bowl
- One tablespoon of crushed up cereal, crackers or other food
- Small towel
- Sponge
- One spoonful of liquid "pollutant" (can be something like chocolate syrup, food coloring, dish soap, or vegetable oil)

**Instructions:**

1. Mix the paper towel bits, crushed up food, and liquid pollutant into the glass of water.



2. Place coffee filter or paper towel in the funnel/bottle and place a sponge on top of that to make your tree filter.



3. Place your tree filter over/into the basin or bowl.



4. Carefully and slowly pour the glass of water into the filter system.

5. As the water drips down, observe and compare the filtered water to the original mixture. What did the filter do a good job of removing? What made it through the filter with the water?



6. Write down your observations on the Forests and Water Health Worksheet.

**For more resources about forests and water health:**

Kleinke, Beth, "How do trees help improve water quality?," *Hibbing Daily Tribune*, March 28, 2018. [https://www.hibbingmn.com/special\\_editorial/how-do-trees-improve-water-quality/article\\_561ce544-3107-11e8-930e-234147624a78.html](https://www.hibbingmn.com/special_editorial/how-do-trees-improve-water-quality/article_561ce544-3107-11e8-930e-234147624a78.html).

Van Fleet, Tyler, "Woods Wash Water," My Woodlot website, <https://www.mywoodlot.com/item/woods-wash-water>.

## **Forests and Water Health Worksheet**

Name:

What did the filter remove well?

What made it through the filter with the water?

If you could design your own filter, what materials would you use?  
How would you layer them?