



Try This at Home Science: Watershed Clean-up

Activity Overview:

Observe how pollution clean-up is never really complete.

Materials:

- Sink with drain plug or clear storage container
- Powdered drink mix (Kool-Aid, coffee, lemonade, etc.)
- Quickly dissolvable candy (Nerds, Smarties, etc.)
- Clean recycling (yogurt containers, cardboard, etc.)
- Clean trash (plastic bag, old homework, old mail, etc.)
- Tongs or pasta spoon
- Large bowl or similar container

Try this!

1. Plug the sink and fill halfway with warm water. This water represents your local watershed.
2. Add the Nerds and powdered drink mix to the watershed and observe.
3. Add the trash to the watershed and observe.
4. Add the recycling to the watershed and observe.
5. Use tongs, spoons, or your hands to remove as much of the candy, drink mix, recycling, and trash as possible and place in the bowl. Can you return the watershed to the way it looked in step 1?
6. Clean up by returning used items to their proper disposal locations (trash in the trash can, recycling items in the recycling bin).

What's happening?

We have simulated a situation where pollutants have entered an ecosystem and scientists need to figure out a way to remove them all. The sink represents our lake or collection pond where all of the pollutants have collected. The Nerds and powdered drink mix represent manure from farms and fertilizer from our yards. The recycling and trash represent the things that do not make it into a recycling or trash bin; the litter all around our communities.



As we try to remove all of the pollution added to the water, we notice that most of the trash and recycling are easy to remove. However, the candy becomes a bit harder to remove if it has already dissolved, and the powdered drink simply cannot be taken back once it mixes with the

water. This is what happens to most pollutants once they enter our ecosystem! Scientists and engineers are trying to solve the problem of removing the microscopic pollutants, like fertilizers used on lawns and the salt from roads.

Is there pollution in your neighborhood?



The next time you are out for a walk, take a look around and observe the area around your feet. What do you notice? Is there litter along the edges of the path you are walking? Was there a water bottle in the gutter down the street from your home? What about that soggy newspaper that may be sitting at the end of a driveway? All of that trash is pollution and we can all do something about it.

Every time we create waste that needs to be thrown away, it is our responsibility to make sure it is disposed of properly. This means we should always have a way to gather up our waste and transport it safely to the nearest trash or recycling bin. Biodegradable dog poop bags act as a great makeshift glove to gather trash without touching it, then both can be deposited in the nearest trash bin. If we notice litter, we should gather it up, leaving the environment looking better than we found it. These small actions can make a big impact in protecting our watersheds and the animals in the area. Interested in doing more? We can also look at current pollutant removal systems and see how they can be improved. Research the systems in your area by visiting your local Department of Natural Resources website!

Now try...

- Find several different fabrics or premade filters in your home and see which would work to help remove the powdered drink mix from the water. What did you notice? What else can you try to get the water cleaner?
- Design a different sewer grate to help gather litter to prevent it from flowing into the storm drains. Can you build a prototype of your idea? If it works, pitch the idea to your local city council or watershed council.
- Design a way to gather trash that has made its way into a river. Make sure this design keeps the animals safe and that nothing but trash can get trapped. Can you build a prototype? If it works, pitch the idea to your local city council or watershed council.

Additional Resources

Learn more about watershed protection measures at [The Nature Conservancy](#)

Locate your watershed using the U.S. Geological Survey [Science in Your Watershed](#) map