girl scouts nation's capital

# Forests Keep Our Waterways Clean!

Forests are extremely important and provide many ecosystem services. An ecosystem service is a benefit from the ecosystem or wildlife that is provided to people. One crucial service provided by forests is keeping pollutants out of our waterways. Use this simple activity to learn how they do this! Pair this activity with our "Watersheds" activity for additional learning.

Supplies:

Rectangular baking pan or dish (clear if possible)

Damp Sponges (not dripping)

Loose coffee grounds or other grainy substance

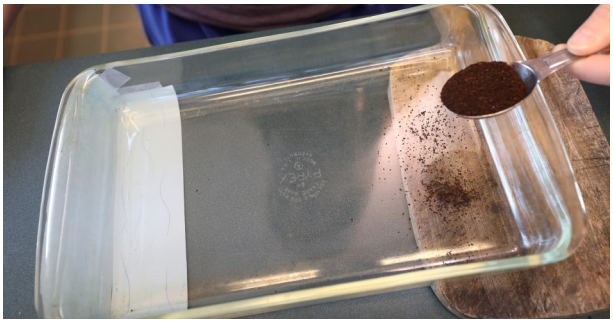
Water

Blue molding clay or paper (optional)

First, we are going to simulate what happens when forests are not present. This is very common in urban areas that have a lot of pavement, but can occur in many different places.

Step 1:

Your pan is your "environment." Pick one short side to be your "stream." Optional: use the blue clay, paper, or something else to make it look more like a stream! Prop your pan up slightly so your stream is at the bottom.



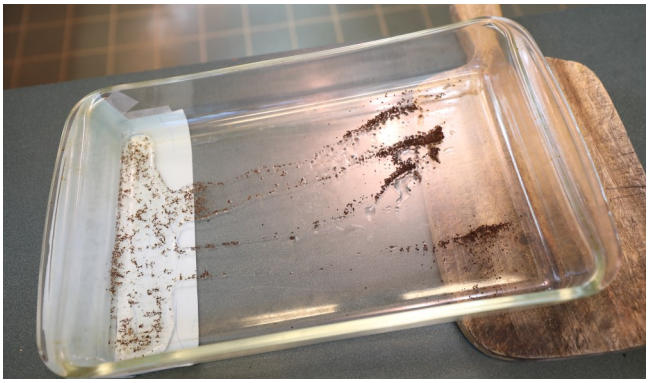
Step 2:

Add some "pollutants" to your environment. This could be fertilizers, motor oil, loose dirt, pesticides, and much more. Sprinkle the coffee grounds over the pan.

Step 3:

It is now raining in our little environment! Pour some water over the pan. What is happening to our pollutants and the stream?

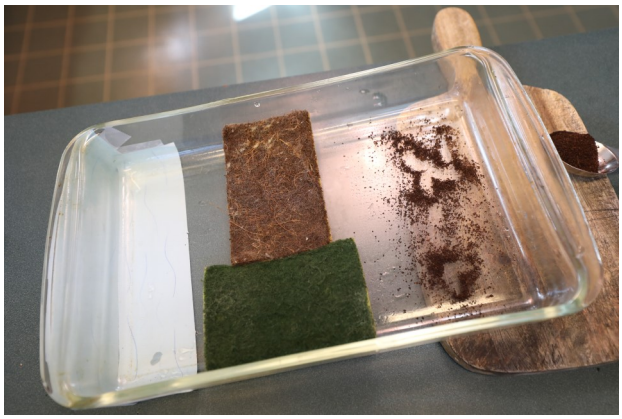
Almost all the pollutants run directly into the stream! All of the water also flows directly into the stream very quickly, which can lead to flooding and bank erosion. When that much water enters the stream that quickly, the stream starts moving much faster and with more power, which can shave off a lot of the soil from the banks and send it downstream—this is called bank erosion.



Now, we are going to see how adding a forest into the environment changes things.

Step 4

Rinse your pan out. Add your sponges to your pan, and make sure they fit snugly across. These are your "forest." Sprinkle some new pollutants above your forest.



Step 5

Another rainstorm is here! Pour some more water over your pan. What is happening this time? Is it different than when there were no forests?

Not only does the forest stop the pollutants from flowing into the stream, but it also slows the speed at which the water enters the stream! Both of these actions help to keep the stream healthy.

Additional Discussion Questions:

What are some other reasons that forests are important?

What would happen if part of the forest was cut down and replaced by a road?

Why is it important to have healthy streams?