



WETLAND SOIL AS A FILTER

Objective: Students will observe the filtration properties of wetland and upland soils

Age Group: Elementary

Materials:

- ✓ (2) 5 oz paper/plastic cups/jars (preferably clear)
- ✓ (2) 3 oz paper/plastic cups/jars (preferably clear)
- ✓ Soil samples from a wetland and upland
- ✓ 2 cups of dirty/muddy water
- ✓ Toothpicks

Curriculum Connection:

1.E.2: Earth Systems, Structures, and Processes

What you need to know:

Wetland soil acts as a filter. It removes pollutants and toxins from stormwater through a series of chemical and physical processes. By the time the water is released back into nearby streams or rivers, it is much cleaner than when it entered the wetland. Without wetlands, we would need to spend a lot of money to create more water treatment plants.

The activity:

- ❖ Use a toothpick to poke 4-6 holes in the bottoms of the 5 oz cups
- ❖ Fill the 5 oz cups about halfway with soil, one cup with wetland soil, the other with upland soil
- ❖ Place the 5 oz cups inside the 3 oz cups, with a toothpick wedged in-between the two cups to create air flow
- ❖ Pour an equal amount of dirty water (~2 oz) into both the wetland soil and upland soil
- ❖ Watch what happens to the water as it filters through the soil
- ❖ Once the water has drained into the 3 oz cups, notice the color of the water
- ❖ Repeat the experiment with the already filtered water. Does it get cleaner the 2nd time?

Follow up:

Which soil did a better job of filtering the dirty water?

Which soil took longer to filter the water?

Did you notice if one soil was able to absorb water faster than the other?