

SOIL EROSION

Soil erosion happens when water or wind carries away the top layer of soil. This simple science experiment helps kids see how plants protect the earth and prevent erosion.

INSTRUCTIONS:

STEP 1: Place two flat trays or pans (or trim the sides off of paper plates), and place both on a slight incline.

STEP 2: Fill both pans with the same amount of soil.

STEP 3: Cover one pan with grass, leaves, or plant material. Leave the other bare.

STEP 4: Slowly pour water onto both pans. Make sure to pour the same amount onto each.

STEP 5: Watch how the water moves across the soil. Notice how much soil washes away in the bare pan compared to the covered one.

STEP 6: Talk about why the soil stayed in place with the ground cover and why it eroded without it.

Materials

**2 shallow pans
or plates**

Soil

**Grass clippings, leaves
or other ground cover**

**Water
(in a pitcher, watering
can, or spray bottle)**

THE SCIENCE

Erosion is a natural process, but human activity like cutting down forests or removing vegetation makes it worse.



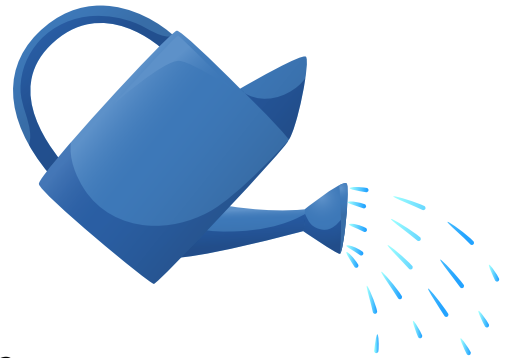
When plants are gone, soil is left unprotected, and water can wash it away quickly. Soil erosion can fill rivers and lakes with mud, harming fish and plants. This experiment shows how vegetation acts like a shield—roots grip the soil, and plant matter slows down rain, reducing erosion. Forests and grasslands are natural protectors against erosion.

Real World Connection: Farmers use cover crops and grass buffers to protect soil. Conservationists replant trees to prevent erosion and protect ecosystems.



Soil Erosion Observations

Use this worksheet to process and evaluate your work.



What did you notice first when the water hit the soil?

Did the ground cover change how the water moved? How?

Which pan lost more soil? Why do you think that happened?

If you could change one thing in the experiment, what would it be?

What did you learn?
