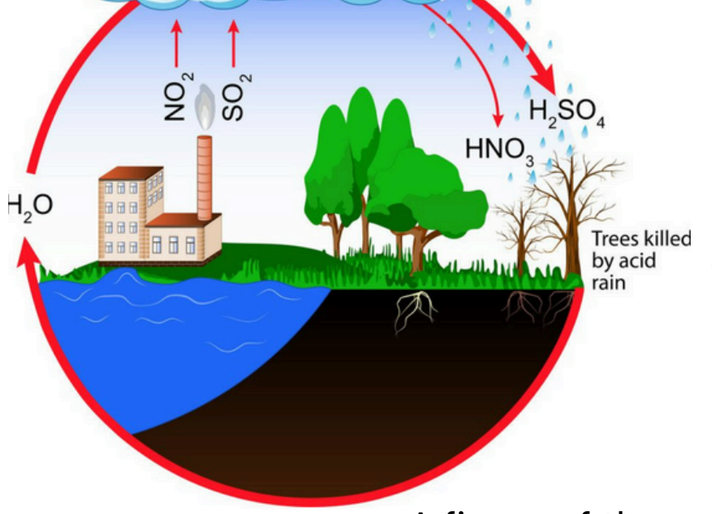
Exp!ore Lab Science

Acid Rain

By: Claire Zahra



A figure of the acid rain cycle (2).

What is Acid Rain?

Acid rain refers to precipitation containing high levels of sulfuric and nitric acid, which falls from the atmosphere. Contrary to its name, acid rain encompasses not only rain but also snow, sleet, hail, and fog.

Causes

Acid rain occurs when sulfur dioxide and nitrogen oxides are admitted into the air. These molecules are then carried by wind and air currents where they mix with water and produce acid (1). Acid rain occurs naturally from volcanoes and other natural sources. However, a large contributor of acid rain comes from the burning of fossil fuels.

Impact

When acid rain occurs, acid is deposited into bodies of water and soil. The large accumulation of acid alters the normal pH of the environment. These alterations can disrupt ecosystems and cause harm to plants and wildlife. Along with this, acid rain can corrode metals and paint, making buildings and sturctures deteriorate more quickly.

72 hours later...

HELPFUL HINT:
If the plant starts to fall, use straws or sticks to add stability!

Try it at Home!

To see the impact of acid rain within your own home try out this easy experiment!

- Collect and label three vases
- Add 1 cup of water to vase #1, 1/2 cup of water and 1/2 cup of vinegar to vase #2, and 1/4 cup of water and 3/4 cup of vinegar to vase #3
- Place a flower or plant in each of the vases and make observations over the next few days

Reference List

1. **"Effects of Acid Rain", United States Environmental Protection Agency, May 7, 2024, https://www.epa.gov/acidrain/effects-acid-rain**
2. **"What is Acid Rain?", internet geography, 2024, https://www.internetgeography.net/topics/what-is-acid-rain/**