Acid rain indicator

Concept—Acid rain

Caution: Supervision required

Curriculum Link:
Geography Curriculum and Science Curriculum—Environmental Awareness and Care strand
Energy books—*Energy Resources in Ireland*, page 9

Experiment—Caution: involves using a cooker and boiling water!

Start by making your acid indicator. You will need:

- Half a red cabbage chopped into small pieces
- Saucepan
- Sieve
- Large jar

1. Place the cabbage in the saucepan with enough water to cover it.
2. Boil the cabbage for 10 minutes, cool and strain. This liquid is your acid rain indicator.
3. Store in a plastic bottle. (Keep it in the fridge or it will go off!)

Now test for acid, you will need:

- Half a teaspoon of baking soda
- Three jars
- Vinegar
- Rainwater

1. Pour equal amounts of the cabbage indicator into each of the three jars.
2. Add the baking soda to one jar.
3. Add some vinegar to another jar.
4. The baking soda is an alkali (opposite to an acid) and should turn the red cabbage juice blue. Vinegar is an acid and should turn the red cabbage juice pink.
5. Now add some of the rainwater to the third jar.
6. How acidic is the rainwater you collected? Compare the colour of the rainwater to the other two jars.

Acid rain occurs when large amounts of gases such as sulphur dioxide and nitrogen dioxide are released into the air. Power stations and car exhausts produce these gases. These gases dissolve in water vapour in the air and fall to the ground as acid rain. Acid rain destroys forests, pollutes lakes and corrodes buildings and statues.