Lightning and Static Electricity

Classification

This experiment is suitable for Grades 4 – 6

Aim

This experiment will show you how to make tame lightning of your own, and demonstrate how lightning is made in lightning storms.

Safety

1. Remember that electricity is dangerous – don't try and touch the spark.
2. Don't forget to get permission from an adult before doing this experiment

What You Will Need

1. Balloon
2. Woollen jumper
3. Something metal – such as a door knob or filing cabinet

What To Do

Step 1. Blow up the balloon.

Step 2. Darken the room as much as possible.

Step 3. Rub the balloon rapidly against the woollen jumper for around 20 seconds.

Step 4. Move the balloon slowly towards the metal object, such as doorknob or filing cabinet.

Discoveries

The balloon is being used to create static electricity. The flash or spark that jumps from the balloon to the metal object is like a small-scale lightning bolt.

Then there are stormy clouds around, moving air prompts tiny water drops and ice to rub together and become charged with static electricity.

Two types of electrical charges are produced – positive (which float to the top of the cloud) and negative (which float to the bottom).

This separation of electrical charges is very unstable and so lightning strikes, rebalancing the charges.