Static Electricity

Materials

- Balloons
- Aluminum can
- Sugar
- Plate
- Paper
- Wool fabric
- String

Click the plasma ball below for an exciting show on electricity!

Students will learn all about static electricity by doing some at-home experiments.

Experiment 1

1. Grab a plate and pour some sugar over the surface.
2. Blow up your balloon and tie the end so no air escapes.
3. Rub the balloon against some wool fabric to generate some static electricity (you can rub it on your hair if you don't have wool).
4. Hold the balloon about an inch away from the sugar, get eye level with the plate, and move the balloon around and observe.

Experiment 2

1. Place your aluminum can, on its side, on a flat surface.
2. Use the same balloon from experiment 1 and rub it against wool or hair to once again build up static electricity.
3. Bring the balloon close to the can and observe what happens.

Experiment 3

1. Blow up another balloon and tie 1 piece of string to each balloon.
2. Rub them against wool or hair to build up a static charge.
3. Suspend the balloons from the strings and observe how they behave when they get close to each other.

Static Electricity

Static electricity is the build-up of an electrical charge on the surface of an object. It is called static electricity because the charges stay in one area for some time and don't flow or move. When two surfaces touch each other (typically rubbing against one another) the electrons from the atoms that make up the object move from one to another. If you rub an object quickly, like a balloon against wool or hair, this can build-up a pretty large static charge. In experiments 1 and 2, the sugar is neutral and the aluminum can becomes positively charged as its electrons aret redistributed by the balloon. Because of this, both the sugar and the aluminum can are attracted to the balloon. In experiment 3, both balloons have a negative charge and repel each other. Opposite charges attract while the same charge repels.