Engineering Experiments

Experiment 3: Static Cling

In this hands-on activity, you will explore the phenomenon of static electricity.

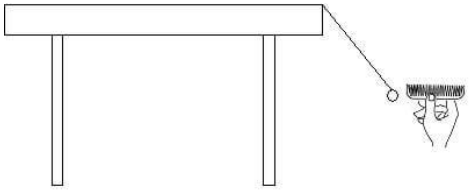
Materials:

- rubber or plastic comb; or a balloon that is blown-up and tied-off
- 30cms of cotton or string
- 1 piece of O shaped cereal (rice bubble for example)
- long dry hair, or dry wool cloth
- a few Styrofoam packing pellets
- tape
- counter top or table

Experiment:

Part 1:

1. Use tape and a piece of cotton or thread to suspend O shaped piece of cereal from a tabletop.
2. Quickly rub a comb (or balloon) through your hair or on a piece of wool cloth.
3. Hold the comb near the cereal.
4. Hold the comb still until the cereal touches the comb.
5. Continue to watch and observe the cereal quickly move away from the comb.



Part 2:

1. Spread some Styrofoam pellets on a table.
2. Rub the comb (or balloon) through your hair or against the wool cloth again.
3. Move the comb (or balloon) close to the Styrofoam pellets.
4. Observe what happens.

Questions to think about.

- Why was the cereal attracted to the comb (or balloon) at first?
- Why did the cereal repel quickly after it touched the comb (or balloon)?
- Why did the Styrofoam pellets stick to the comb (or balloon)?

Engineers have to think about static electricity when designing, manufacturing and packaging electronic circuit boards. If too much static electricity is present, the electrical components on the circuit board may malfunction and the circuit board may not work. When making circuit boards for computers and electronics, engineers wear special white suits called "bunny suits" and work in "clean rooms" to help protect the circuit boards from static electricity and dust.