How to make your own Lightning

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You will need: a balloon, wool clothing (such as a wool sweater), a metal surface (such as a filing cabinet).

1. Inflate the balloon.

2. Darken the room as much as possible.

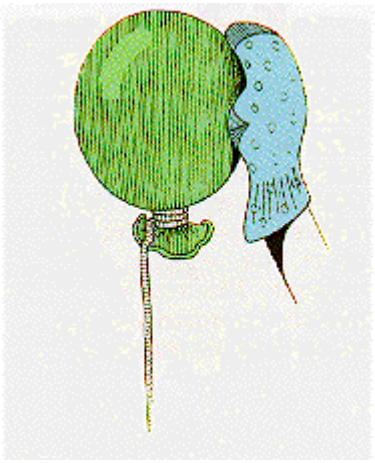
3. Rub the balloon against the wool sweater about ten times.

4. Move the balloon close to the metal surface.

The balloon is being used to create static electricity. A flash or spark will jump, like lightning, from the balloon to the metal surface.

HAIR-RAISING RESULTS

Have you ever been shocked when you walked across a rug or touched a light switch? Wait until a cool, dry day to learn about static electricity.



What you'll need

A cool, dry day
2 round balloons (inflated and tied)
2 20-inch pieces of string
1 wool or acrylic sock.
1 mirror (or more)
1 friend (or more)
Your science journal

What to do

1. Tie a string to each inflated balloon.
2. Rub a balloon on your hair for about 15 seconds. Be sure to rub around the whole balloon.

   What happens to your hair?
   What happens when you bring the balloon back close to your hair?

3. Rub the balloon on your hair again and have a friend (or parent) do the same with the other balloon.
4. Each of you hold the string to 1 balloon, letting the balloons hang freely, but without letting them touch anything.
5. Slowly move the 2 balloons toward each other, but don't let them touch.

   What do you see?
   Do the balloons push away from each other, or do they pull toward each other?

6. Place your hand between the two hanging balloons.

   What happens?

7. Place a sock over 1 hand and rub 1 balloon with the sock. Then let the balloon hang freely. Bring your sock-covered hand near the balloon.

   What happens?

8. Try rubbing both balloons with the sock and then let them hang near each other.

   What happens now?

9. Look for other examples of static electricity around the house.

   Have you ever felt a shock when you touched a metal doorknob on a cold winter day? What often happens when you remove the clothes from the dryer?

All materials contain millions of tiny particles, called protons and electrons, that have electric charges. Protons have positive charges, and electrons negative ones. Usually, they balance each other, but sometimes when two surfaces rub together, some of the electrons rub off one surface onto the other and we can have static electricity. Materials with like charges (all positive or all negative) move away from each other; those with opposite charges attract each other.