

Student Activity Book

**GSK Science
in the Summer™**

**Physical Science &
Electricity**

Balloon Dances

Electrons carry a negative electrical charge. Protons carry a positive electrical charge. When there are more electrons than protons in an atom, the whole atom carries a negative electrical charge.

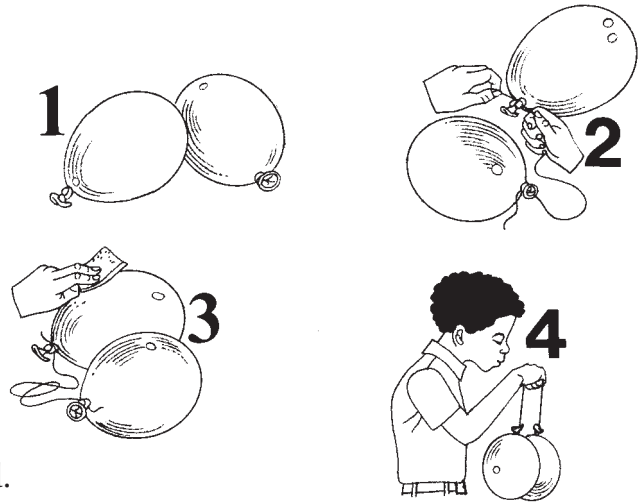
Negatively charged objects are attracted to positively charged objects. But they repel other negatively charged objects.

You Need:

- Two (2) balloons
- Two (2) pieces of string
- A piece of wool

What to Do:

1. Blow up the balloons and tie them closed.
2. Tie a string to each balloon.
3. Rub each balloon with your piece of wool in one (1) direction for about half a minute.
4. Hold the strings with one (1) hand, and allow the balloons to hang freely. What happens to the balloons?



Based on what you know about electrical charges, would you say that the balloons hold the same charge, or different charges?

Experiment with rubbing balloons on other surfaces and materials, such as a sweater or the carpet.

Leaping Leaves

Static electricity can bend water. It can also make leaves jump around as if they were in a strong wind.

You Need:

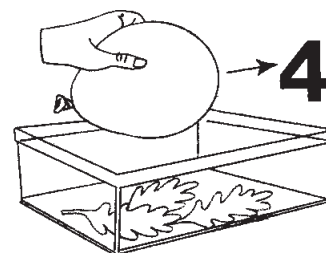
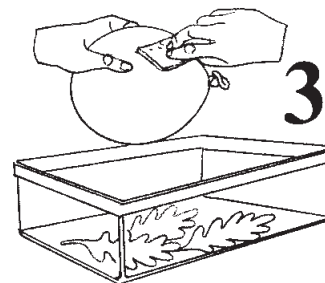
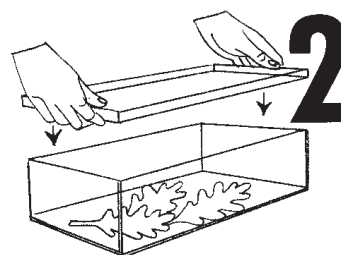
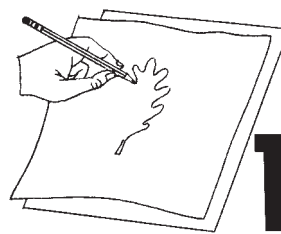
- Pencil
- Tissue paper (the kind for wrapping presents)
- Three (3) or four (4) leaves
- Scissors
- A small container with a clear plastic lid
- Tape
- Balloon
- A piece of wool
- Safety glasses

What to Do:

1. Put your tissue paper on top of three (3) or four (4) leaves and trace them. Cut out the leaves.
2. Put your tissue paper leaves into the container, and put the lid on the container. Tape the container shut.
3. Rub the balloon with a piece of wool in one direction for about one (1) minute.
4. Rub the top of the container in one direction with the balloon. Watch what happens!

More to Do:

Use your charged balloon to experiment with different materials. What do you observe when you bring your balloon close to salt? Pepper? Sugar? Flour? Be sure to clean up after you finish your experiments!



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