Electroscope

What You Need

- ballpoint pen
- foam cup
- nonbendable plastic straw
- aluminum pie pan
- glue
- thread
- 1-inch square of aluminum foil
- tape
- foam plate
- balloon

Zzzap! Got static electricity? Use an electroscope to find out!

Make It

1. Use a ballpoint pen to **punch** two holes on opposite sides near the bottom of a **foam cup**.
2. **Push** a plastic straw through the holes in the cup.
3. **Turn** the cup upside-down and **glue** it near the edge of the pie pan. The straw should stick out over the edge.
4. **Wait** for the glue to dry.
5. **Tie** a few knots in one end of a piece of thread.
6. Use the foil square to **make** a ball around the knots in the thread.
7. **Tape** the thread onto the straw so that the ball of foil is hanging down and **touching** the edge of the pan.

Test It

1. **Turn** the foam plate **upside down** and **tape** it to the table.
2. To create static electricity, **rub** a balloon on the foam plate.
3. **Put** the electroscope on top of the plate. Make sure you always **hold** the electroscope by the **foam cup**, not the metal pan.
4. **What happens?**

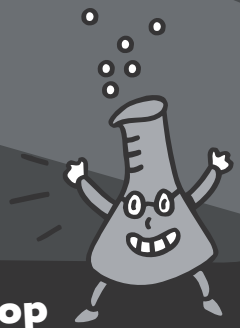
ZOOMon™

Now it's time to **experiment**. What happens if you **touch the foil ball** when it is charged? Or, what happens if you **use two foil balls**? Choose **one thing** to change (that's the variable) and **predict** what you think will happen. Then **test it** and **send** your results to ZOOM at **pbskids.org/zoom**

Sent in by Wendy A. of Atlanta, GA

Electroscope

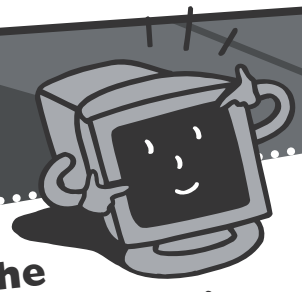
Think of another experiment to do with the electroscope. Draw a picture of it or write about it in the space below.



Science Scoop

When you rub the balloon on the foam plate, you leave negative charges **(electrons)**. This charges the plate with **static electricity**. When you put the pie pan on the foam plate, the extra electrons **flow** into the pie pan and the foil ball. Because electrons are negative charges, the pie pan becomes **negatively charged**.

The foil ball is touching the pie pan, so electrons **flow** into it. Then the pie pan and foil ball have the same negative charge, so they **repel** (push away from) each other. This is why the aluminum ball **flies** up. The negative charges in the ball are **repelled** by the negative charges in the pan.



Visit the ZOOM Web Site!

- Keep experimenting with electricity by trying **Snap, Crackle, Jump** and **Electric Gelatin** at **pbskids.org/zoom/sci**
- Send an idea for a new science activity to ZOOM at **pbskids.org/zoom**