# The Wonders of SCIENCE

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# Become a Science SUPERHERO

Have you ever daydreamed about having powers like Wonder Woman or Superman? It's your time to make these dreams come true and become a Science Superhero! We will get all "charged up" and harness the power of electricity with this month's experiment. With a few items from your house, you will learn how to use static electricity to create lightning!

Static electricity is defined as the build-up of an electrical charge on the surface of an object. We call it "static" because the charge stays in one area. It does not move or flow to other areas. You might have felt static electricity before if you have walked across a carpet and then touched a metal door knob.

**ZAP!**

## Materials:

1. Thumbtack
2. Aluminum pie plate
3. Pencil with an eraser
4. Styrofoam plate
5. Wool fabric

## Procedure:

1. Ask an adult to help push the thumbtack through the center of the pie plate.
2. Push the eraser end of the pencil onto the point of the thumbtack.
3. Place the styrofoam plate upside down on a flat surface.
4. Rub the wool fabric against the styrofoam plate for several minutes. This will start to create a charge.
5. Pick up the aluminum pie pan by the pencil, using it as a handle. Make sure nothing touches the pie plate or the experiment will not work.
6. Place the pie plate on top of the styrofoam plate.
7. Get ready for the shock! Now that your pie plate is charged, slowly bring your finger towards the pan. Be prepared, you will feel a shock!
8. Ready to see lightning from your fingertips? First, darken the room – turn off the lights and shut the curtains! Touch the pan again! You should see the electricity right from your fingertips! You might even be able to hear it, if this space is quiet enough.

## Discussion:

When you rubbed the wool fabric along the styrofoam plate, you created static electricity. Lightning, like we see during storms, happens when negative charges, or electrons, are attracted to the positive charges, or protons. In this experiment, your finger acted as the electron and the aluminum pie plate was the proton. The spark you saw from your fingertips is similar to the lightning in clouds, just much smaller!

Be sure to show your friends and family your new super power! Did you come up with your Superhero name?