

Static Strength Tester!

You have seen that different materials can be used to produce static electricity. You can also get an idea about how strong the static electricity is by making your own static strength tester. Let's try it!

Materials:

- Thin thread (about 30 cm. long)
- Small piece of Styrofoam (about 1 cm. square or round)

Procedures:

1. Ask an adult to help you tie the end of your thread to the little piece of Styrofoam.
2. Rub a balloon on your shirt, hair, or sweater.
3. Hold the thread at one end and slowly bring the other end with the Styrofoam near the balloon. What happens?



4. You can get an idea about how strong the static electricity is by how far away an object is that makes the tester move and also by how much it moves.
5. Try rubbing a plastic ruler on a rug or a disposable clear plastic cup on a piece of Styrofoam. Then use the tester on the ruler and the cup.

You will probably notice that a balloon can get a pretty strong static charge. Here's a fun way to use the static electricity on a balloon.

1. Turn the cold water on in the sink so that it runs out in a very thin stream.
2. Rub a balloon on your hair, shirt, or sweater.
3. Slowly bring the balloon close to the thin stream of water. What do you observe?



Think about this ...

Some materials and objects seem to create more static electricity than others. Why do you think that is?

Where's the Chemistry?

Some materials that are used to do the rubbing are good at scraping electrons off other material. But it's not only the material that does the rubbing that matters. Some objects being rubbed may not give up their electrons easily but others may. So it depends on how well the materials being used either scrape off or let go of their electrons.



The American Chemical Society develops materials for elementary school age children to spark their interest in science and teach developmentally appropriate chemistry concepts. The *Activities for Children* collection includes hands-on activities, articles, puzzles, and games on topics related to children's everyday experiences.

The collection can be used to supplement the science curriculum, celebrate National Chemistry Week, develop Chemists Celebrate Earth Day events, invite children to give science a try at a large event, or to explore just for fun at home.

Find more activities, articles, puzzles and games at www.acs.org/kids.

Safety Tips

This activity is intended for elementary school children under the direct supervision of an adult. The American Chemical Society cannot be responsible for any accidents or injuries that may result from conducting the activities without proper supervision, from not specifically following directions, or from ignoring the cautions contained in the text.

Always:

- Work with an adult.
- Read and follow all directions for the activity.
- Read all warning labels on all materials being used.
- Wear eye protection.
- Follow safety warnings or precautions, such as wearing gloves or tying back long hair.
- Use all materials carefully, following the directions given.
- Be sure to clean up and dispose of materials properly when you are finished with an activity.
- Wash your hands well after every activity.

Never eat or drink while conducting an experiment, and be careful to keep all of the materials used away from your mouth, nose, and eyes!

Never experiment on your own!

For more detailed information on safety go to www.acs.org/education and click on "Safety Guidelines".

