

Make Tinsel Fly with Static Electricity



**IMPOSSIBLE
SCIENCE**

Objective: Students will be able to describe how static electricity can repel objects.



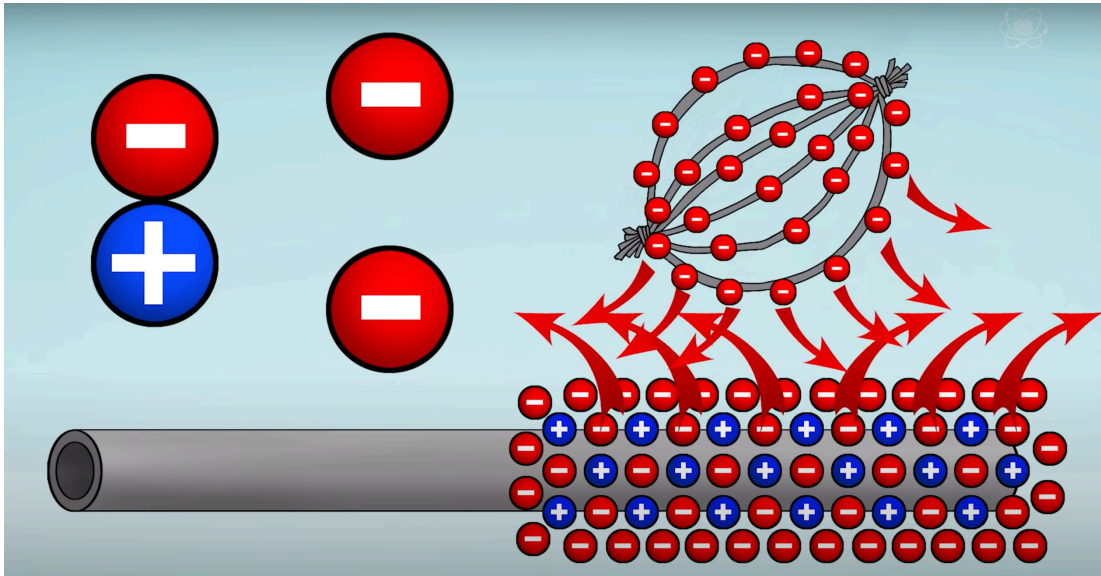
Procedure

1. Place a few different items on each table (fur, sandpaper, glass, metal, tissue, silk, cotton, etc.) and give each student a balloon.
2. Have students rub the balloon on different surfaces (and their hair) to see what happens. Students should record their observations.
3. Ask: What did you notice about how the balloon affects different objects? What did it attract the most? What do you think is happening? Give students a minute to turn and talk, then ask a representative from each table group to share ideas.

Materials:

- PVC pipes (about 2 feet long- thin-walled)
- Wool (about the size of a washcloth)
- Tinsel
- Scissors
- Clear tape
- Balloons
- Objects and fabrics with a variety of textures (fur, sandpaper, glass, metal, tissue, silk, cotton)

4. Tell students that static electricity involves atoms and their charges. Review definitions and have students record and draw a diagram.



5. Show students Impossible Science! [video to 1:48](#) and pause to ask if anyone has a theory about how the tinsel is floating.
6. Show students Impossible Science! video to 2:30, replaying it so that students can jot down notes in their journals.
7. Ask one or two students to recap the explanation for the class, and clarify as needed.
8. Show students Impossible Science! Video to 5:00. Help students to make their orbs (if time is limited, you could prepare the orbs for students in advance). Finish video.
9. Demonstrate the experiment and have students try it themselves, recording their observations.

Vocabulary:

Atom: The smallest piece of any kind of matter (millions could fit on the head of a pin). Protons and neutrons exist in the nucleus, and electrons orbit the nucleus.

Proton: Part of an atom that has a positive charge. Protons push other protons away, and they are attracted to electrons.

Electron: Part of an atom that has a negative charge. Electrons push other electrons away, and they are attracted to protons.

Neutron: part of an atom that has no charge.



Assessment:

In groups of four, students should write and perform a short skit in which they explain static electricity using the terms proton, electron, charge, and atom.

Safety Note:

Adult Supervision Recommended

Watch the companion video here:



Lesson Plan by Whitney Gallagher based on the “Impossible Science” series.

Find more at impossiblescience.com

