

**Project FOCUS
Best Lessons
FIFTH GRADE**

Title of Lesson: Static Electricity

Theme: Physical Science

Unit Number: **Unit Title:** electricity and Magnetism

Performance Standard(s) Covered (enter codes):

S5P3

Enduring Standards (objectives of activity):

Habits of Mind

- Asks questions
- Uses numbers to quantify
- Works in a group
- Uses tools to measure and view
- Looks at how parts of things are needed
- Describes and compares using physical attributes
- Observes using senses
- Draws and describes observations

Content (key terms and topics covered):

Electricity and magnetism: Static Electricity

Learning Activity (Description in Steps)

Abstract (limit 100 characters): I demonstrated static electricity to my class with 3 mini experiments.

Details: Mini experiment 1: Bending Water

- 1- Charge the balloon by rubbing the balloon with a piece of wool for about 10 seconds.
- 2- Turn on the faucet so that the water runs out in a small, steady stream, about 1/8 inch thick.
- 3- Slowly bring the balloon near the water and watch the water "bend"
- 4- I brought up groups of 4-5 kids to the sink to see the stream of water and watch what happens as you move the charged balloon toward the neutral water.
- 6- Repeat experiment for reinforcement

Mini Experiment 2: Hair experiment

- 1- Charge the balloon by rubbing the balloon with a piece of wool for about 10 seconds.
2. Touch balloon to head.
3. Slowly lift balloon from hair and watch the hair stick up.

Mini Experiment 3: Light Experiment (it takes 2 people for this experiment)

1. Turn off the lights and make the room as dark as possible.
2. Charge the balloon by rubbing the balloon with a piece of wool for about 10 seconds.
3. Another person needs to hold a fluorescent light bulb with electrodes sticking out.
4. Quickly, but delicately touch the charged balloon to the electrode.
5. Watch the bulb light up for a brief flash.
6. Repeat experiment because it sometimes doesn't work and happens very quickly, so the students might not see and the flash is not very bright.

Materials Needed (Type and Quantity):

Balloons: At least 2 or 3, more if each group does their own experiments

Mini Fluorescent light bulb: Flat one like on ceiling

Notes and Tips (suggested changes, alternative methods, cautions):

For mini experiment 3, I would recommend the students not handle the light bulb, in case they drop it. This experiment will probably have to be run multiple times because it is sometimes difficult to get the bulb to flash. This experiment also seemed to work with a mid-size balloon. Experiments 1 and 2 are straightforward and the students would be able to do these on their own.

Sources/References:

- 1) <http://www.sciencemadesimple.com/static.html>
- 2)
- 3)