

Magic of Science - Static Electricity: Discovery Theater Explorations

Topics covered: Charge it up! Watch pie pans float. Create lightning using a Van de Graaff Generator. Link hands to light up a fluorescent tube. Learn how atoms, positive and negative charges, conductors and insulators work to produce static electricity. Student volunteers participate in a series of fun, fast-paced physical science demonstrations about magnetism and static electricity that motivate students to hypothesize "how" and "why" things happen in the physical world. (This program is similar to Magic of Science-Physical Science Sampler—but its focus is static electricity.)

Ages: 2-5

Purchase Details: Science and Discovery Lab and Theater Explorations - \$5 per student

Programs can be reserved by phone: 901-636-2362

Wednesday - Saturday, 10:30 am - 5:30 pm

Objectives:

1. Understand the basic properties of static electricity.
2. Identify the parts of an atom and their properties.
3. Learn how static electricity is present in everyday life.

Vocabulary:

static electricity
atom
nucleus
electron
proton
neutron
conductor

insulator
attraction
repulsion
magnetism
positive charge
negative charge
neutral charge

Fun Facts:

- When an electric charge builds up on the surface of an object, it creates static electricity.
- Electricity travels at the speed of light-- more than 186,000 miles per second.
- Lightning is a discharge of static electricity in the atmosphere.

Web Resources:

Intro to Static Electricity--

<https://www.explainthatstuff.com/how-static-electricity-works.html>

Science News for Students/Physics of Baseball--

<https://www.sciencenewsforstudents.org/article/baseball-pitch-hits>

Live Science/What is an Atom?

<https://www.livescience.com/37206-atom-definition.html>

Museum Resources:

- **For Your Classroom:** Book our Electricity or Electric Circuits Suitcase Exhibits. Electricity features electroscopes, a potato clock, batteries and plenty of wires and bulbs for hands-on experiments. Electric Circuits contains 14 Electric Circuit Kit Books with step-by-step lessons about simple, series and parallel circuits, batteries, switches, conductors and insulators. The Magnets and Magnetism Suitcase includes a loadstone, compasses and different types of magnets for K-5 student research.
- **In the galleries:** You may have been hit by electron beams! Visit the Cultural History Exhibits upstairs to examine an early x-ray machine in the Saddlebags to Science 1830-1930 Gallery. In the History of Memphis 1800-1900 Gallery, peek inside a log cabin to see how Mid-Southerners lived before electricity.

Where: Pink Palace Discovery Lab or Theater (for 33-100 students) or Classroom (for 15-32 students)

When: August-May Tuesday-Friday at 9:30 & 11 am 45-60 Minutes

- **Standards:**
 - (Grade Level) 6-8
- **Tennessee: (Science)**
 - GRADE 2:
 - GRADE 3: 3.PS1, 3.PS2, 3.PS3
 - GRADE 4:
 - GRADE 5:
- **Mississippi: (Science)**
 - GRADE 2:
 - GRADE 3: P.3.5, P.3.6
 - GRADE 4:
 - GRADE 5: P.5.5
- **Arkansas: (Science)**
 - GRADE 2: 2-PS1
 - GRADE 3: 3-PS2
 - GRADE 4: 4-PS3
 - GRADE 5:
- **Catholic Diocese: (Science)**
 - GRADE 2:
 - GRADE 3: 3.III.3, 3.V.4
 - GRADE 4:
 - GRADE 5: 5.III.2, 5.V.1