

Pre-Visit/Post-Visit Guide

Lesson Name: I've Got the Power!

Summary of Lesson:

This program will demonstrate the Law of Conservation of Energy, giving students a greater understanding of energy and its relation to the world we live in. Join us as we identify the sources of heat, solar, chemical, and electrical energy and how this energy can be transferred from one form to another. Student volunteers will assist in the demonstrations.

South Carolina Science Standards: 6.P.3A.1, 6.P.3A.2.

Pre-Visit Resources

- **Teacher/Chaperone Expectations:** Please help us by letting us know of any special accommodations for your children prior to the lesson. This 60 minute stage show has periodic loud noises, some fire demonstrations, and darkness. Your assistance with auditorium management is greatly appreciated.
- **Instructions for Teachers:** Students will enter from the back of the Symmes Hall of Science forming a single file line into the auditorium. The instructor will direct students beginning with the second row of the auditorium filling every seat. No food or drinks are allowed in the auditorium. Please have students spit our gum before entering. During demonstrations where the house lights have been lowered all visitors must remain seated until the lights have been brought back up. The tesla coil does create a high energy field, therefore guests that use bio-medical equipment have the option to step out prior to this demonstration.
- **Key Vocabulary:** energy, potential energy, kinetic energy, law of conservation of energy, thermal energy, sound energy, chemical energy, electrical energy
- **Key Questions Addressed in Lesson:** What is energy? What are the forms of energy? How is energy transferred?
- **Content Preview Video:** This is a video explaining energy and giving examples of energy transformations. <https://www.youtube.com/watch?v=-8atlc3XixY>

Post-Visit Resources

- **Writing Prompt:** Think about what happens when you touch something like a hamburger. The thermal energy from the hamburger is shared with your hand. Your hand feels warmer than before it touched the hamburger. The hamburger loses some of its thermal energy so it becomes cooler. The energy from the hamburger is transferred to your hand. Thermal energy is always shared between objects that touch each other, like your hand and a hamburger. The thermal energy always travels from the item with the most thermal energy to the item with the least. This process is called conduction. You took a can of soda out of the refrigerator. After holding the can for a minute, how does your hand feel? Explain what happened to cause this. Use what you know about heat, as well as details from above to support your answer.

- **Possible Lesson Link:** This site lists multiple energy and energy transformation lessons for use in the classroom. <http://sbsciencematters.com/lesson-units/6th-grade/6physical-energy/>
- **Video Link:** This is a quick and visually interesting video about the law of conservation and different types of energy. <https://www.youtube.com/watch?v=dmcevC55K3s>