

P.I. Plug says, “Be Smart about Fire and Electrical Safety!” Lesson Plan: The Big Idea

Objective: To teach students about electricity and the fundamentals of electrical safety

Time requirement: Approximately twenty minutes for the basic lesson; additional time as needed if the lesson is extended

Approach: The goal of this lesson is to become familiar with the principles of electricity and electrical safety. Students will interact with one another, the teacher, and other informed adults (if applicable) during this activity. Interactions will promote important academic listening skills and will be enhanced by hands-on activities. Each activity contains critical words that have been highlighted. The meaning of these words should be explained to students, or students should have an opportunity to look them up online or by using print resources.

Introduce the Activity: Ask students to explain the definition of electricity. Encourage a variety of responses and summarize them by explaining that everything is made of atoms, and an electron is part of an atom. Electrons moving through a wire causes electricity.

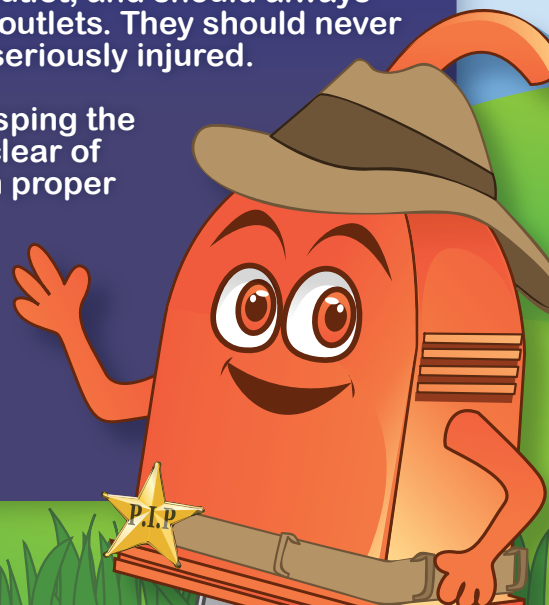
Optional: You may choose to have the students interview a school staff member, parent, or other adult to learn more about electricity.

Learning Activity 1: How to handle electrical cords

Move to an electrical outlet that the students can see. If necessary, allow them to gather around so they can see what you are doing. Explain that outlets are the primary sources of electricity in a house. All the outlets in a house or other building are connected through wires. These wires are called a **circuit**, a term that describes the flow of electricity.

Remind the students that they should never touch an outlet, and should always ask an adult for help plugging or removing cords from outlets. They should never put anything else into an outlet or they could become seriously injured.

Demonstrate how to insert a **plug** into an outlet by grasping the protected part of the plug while keeping your fingers clear of the **prongs**. Recap by having students talk you through proper plug insertion while you demonstrate the activity.



Learning Activity 2: The parts of a plug and cord

For this part of the lesson, you will need a plug and section of cord from a device or extension cord that are no longer serviceable. Cut away part of the insulation to expose the wire. Show the students the wire and insulation. Explain that the electricity moves through the wire because it is a **conductor**. The covering around the wire is called an **insulator**.

The covering around the wire protects you from electrical shock. That is why it is so important to be sure that a wire is not damaged in any way. Give the students an opportunity to handle the plug and cord, naming the prongs, plug, conductor, and insulator.



Learning Activity 3: Liquids and electricity don't mix

Place a beverage like a glass of water on your desk or another place in the classroom that has no electrical devices, cords, or nearby outlets. Explain to the students why they should never have **liquids**, especially things they are drinking, near electrical devices. If they spill the liquid onto an electrical device it could shock them. The liquid can also damage the electrical device.

Shock injuries and damages occur because water contains natural elements such as salt, and magnesium that **conduct** electricity. Remind them that they should be extra careful in a bathroom or kitchen because there are so many electrical devices in these places. Discuss with the students some of the electrical devices that might be found in a kitchen or bathroom.



Capstone Activity: Summarize the discussion of electricity and electrical safety by writing the following ideas on the board or projecting them so all the students can see them. Ask students to review what they learned as you recap each activity.

Learning Recap:

- Learning Activity 1: How to handle electrical cords
- Learning Activity 2: The parts of a plug and cord
- Learning Activity 3: Liquids and electricity don't mix

Visit ESFI's Safety Educator's Guide for more fire and electrical safety lessons and activities.