

## Objective

By the end of this lesson, the student will understand the basic concepts of electricity, including the flow of electric current, circuits, and the difference between conductors and insulators. The student will also engage in hands-on activities to reinforce these concepts.

## Materials and Prep

- Pencil and paper for notes and sketches
- Household items to test for conductivity (e.g., coins, paper clips, rubber bands, plastic straws)
- Light bulb (if available) or a simple circuit diagram to draw
- Access to a computer or tablet for research (optional)

Before the lesson, ensure the student understands basic safety rules when handling electrical components and is encouraged to ask questions throughout the activities.

## Activities

- **Electricity Basics Discussion:**

Start with a discussion about what electricity is and where we see it in our daily lives. Ask the student to give examples of devices that use electricity and how they think electricity works.

- **Conductivity Test:**

Using the household items, the student will test which materials conduct electricity and which do not. They can create a simple chart to record their findings.

- **Build a Simple Circuit:**

If a light bulb is available, the student can try to build a simple circuit using wires (or their imagination if no materials are available). They can sketch the circuit diagram and explain how it works.

- **Research Project:**

The student can choose a topic related to electricity (like renewable energy sources or famous inventors in electricity) and prepare a short presentation or a poster to share what they learned.

## Talking Points

- "Electricity is a form of energy that powers our world, from the lights in our homes to the devices we use every day."
- "A circuit is like a pathway for electricity to travel. Without a complete pathway, electricity can't flow!"
- "Conductors are materials that allow electricity to flow easily, like metals, while insulators, like rubber, keep electricity from passing through."
- "Did you know that lightning is a natural form of electricity? It's one of the most powerful displays of electricity we can see!"
- "Understanding electricity is important because it helps us create and use technology that makes our lives easier."
- "Always remember to be safe around electricity. Never touch wires or devices with wet hands!"
- "Many inventions, like the light bulb and the battery, have changed how we use electricity in

our daily lives."

- "Exploring renewable energy sources, like solar and wind power, shows us how we can use electricity sustainably."
- "Electricity travels at the speed of light, which is incredibly fast! That's why we can turn on a light switch and see it light up almost instantly."
- "The study of electricity is not just about science; it's about creativity and innovation too!"
- "Ask questions! The more curious you are, the more you'll learn about how electricity works."
- "Remember, every time you turn on a device, you're using the principles of electricity that scientists have studied for years!"