Electricity
4th Grade
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Benchmark:

SLC 7: Students will select appropriate resources and tools to make accurate observations to gain desired results given the stated conditions (i.e., if a desired result is to build an outdoor greenhouse to start seeds, the design would have to promote the correct amount of sunlight.)

Objectives:

Students will:

- figure out how to light a light bulb with simple materials
- make predictions on whether a light bulb set-up will work
- understand the difference between an open and closed circuit
- figure out what resistors and conductors are and examples of each

Materials:

Day 1 & 2 (must have enough of each item for every student):

- D-cell batteries
- Penlight bulbs
- Strips of tin foil (at least 4inches long)
- Things that work, things that didn't work (Day 1), and Prediction Sheet 1 (Day2)

Day 3:

- D-cell batteries (2 for each student or group)
- Penlight bulbs
- Strips of tin foil (or wire)
- Light bulb socket
- Prediction Sheet 2

Day 4:

- All physical materials from Day 1
- Various objects to test conductivity like: steel nails, aluminum nails, paper clips, straws, sponges, cardboard, rubber bands, plastic spoons, pencils, etc.
- Making Connections and Conductors and Insulators worksheet

Initial Demonstration:

There is no initial teacher demonstration, but students are allowed free rein on trying to light the light bulb using the battery, bulb, and foil. This gives them the initial demonstration of what works and mostly, what doesn't. This set-up is consistent through all 4 days with the students experiencing failed and successful attempts.

Procedure: