Circuits

Essential Question: *What is necessary for a current to move through a battery to a light bulb?*

Overview

Today, you will explore in more detail how electricity moves. Electricity is generated at power plants but how does it get to the places where we use it? It travels through electrical circuits, which allow a current of electrons to flow from one place to another. You can think about this activity in terms of power plants and places where consumers of electricity live. The batteries represent the power plants, but how does the electricity get from the power plant to your toaster?

When batteries and light bulbs are connected in various arrangements, some bulbs may light and others may not. You will study electric circuits by observing under which conditions bulbs light brightly, dimly, or not at all.

Materials

- 1 D-cell battery
- 1 small light bulb
- 2 alligator clip leads
- 1 single D-cell battery holder
- 1 base for small light bulb

Safety Concerns

Follow standard safety rules and school safety rules for laboratory activities.

Procedure

1. Obtain one battery and one light bulb from your teacher.
2. Sketch a picture of the battery that indicates the positive (+) and negative (–) end.
3. Sketch a picture of the bulb. Be sure to show (and describe) what's inside the glass bulb.

> **Stop and Think**
>
> If you had two alligator clip leads, how could you make your light bulb light? Sketch your plan.