Electricity for Kids

Intro

What is Electricity?

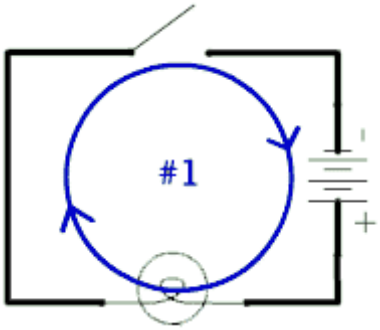
In order to understand the basics of electricity, it helps to first understand about atoms.

Atoms are small particles that make up all matter. They are so small that it takes billions and billions of them just to make something useful like a pencil. Inside the atom are even smaller objects called electrons, protons, and neutrons. Electrons have a negative charge (-) and the protons have a positive charge (+). The protons and neutrons stick to together in the center of the atom, called the nucleus. The electrons spin fast around the outside. The positive charge of the protons keeps the electrons from flying off and leaving the atom.

The electrons in the atom are where electricity gets its name. In some elements, there are electrons on the outside of the atom that, when a force is applied, can come loose and move to another atom. When a bunch of atoms are together and electrons are moving from one atom to the other in the same direction, this is called electricity. Electricity is the "flow" of electrons.

You can read more details about the atom here.

How do we make electrons move to make electricity?



We make electricity by creating an electric circuit. Let's take the case where you are turning on a light in your house: when you flip the switch "on" you are completing the electric circuit and causing electricity and electrons to flow through the light bulb, turning the light "ON."

Here are some key elements to a circuit:

- Power source: Could be a battery or your wall outlet
- Conductor: The wires that carry the electricity from place to place
- Load: what the electricity is powering, like the light bulb in the example above
- Switch: The switch that connects the circuit together to start the electricity flowing

Is electricity safe?

Electricity can be dangerous. Some important things to keep in mind:

1. Never play with electricity.
2. Always follow the instructions on electrical equipment and ask your mom or dad for help if you don't understand.
3. Never stick anything but a proper plug into a wall outlet.
4. When you unplug something from the wall, don't pull on the cord, use the plug.
5. Never put electronic items into the water, especially if they are plugged in.
6. Don't place items on top of electrical cords. The cords could get damaged and cause a fire.

These are just some safety precautions to take when using electricity. If you are unsure, be sure to check with your parents or teacher.