

Lesson Outline**LESSON 3*****Describing Circuits*****A. Parts of an Electric Circuit**

1. An electric circuit transforms _____ **Electric** _____ energy to other forms of energy.
2. An electric circuit contains a(n) _____ **Energy** _____ source.
 - a. A(n) _____ **Battery** _____ is often used as an energy source.
 - b. As chemicals react within a battery, the battery's _____ **Positive** _____ terminal loses electrons and its _____ **Negative** _____ terminal gains electrons.
 - c. When the terminals are connected in a closed circuit, electrons flow from the _____ **Negative** _____ terminal of a battery to the _____ **Positive** _____ terminal.
3. An electric circuit contains at least one electric _____ **Devic** _____ that transforms energy.
 - a. Within a battery, _____ **Chemical** _____ energy transforms into _____ **Kinetic** _____ energy of moving electrons.
 - b. When the electrons flowing in a conductor _____ **Collide** _____ with the atoms that make up the conductor, the electrons transfer some of their _____ **Kinetic** _____ energy to the atoms.
4. An electric circuit contains _____ **Wires** _____ that connect its components.
 - a. Wires that connect components of a circuit have _____ **Low** _____ electric resistance.
 - b. Only a small amount of electric energy is transformed into _____ **Thermal** _____ energy by wires, which means that more energy is available for useful devices in the circuit.

B. Series and Parallel Circuits

1. A(n) _____ **Series** _____ circuit is an electric circuit that has only one closed path for an electric current to follow.
 - a. Because there is only one path, when a series circuit is _____ **Open** _____, all _____ **Devices** _____ turn off.

Lesson Outline continued

b. Adding devices to a series circuit adds **Resistance** to the circuit and **Decreases** the current in the circuit.

2. A(n) **Parallel** circuit is an electric circuit that has more than one closed path for an electric current to follow.

a. Most circuits in homes are **Parallel** circuits.

b. In a parallel circuit, each **Devic** has its own path, or **Branch**, that connects it to the source.

c. If you **Open** one branch of a parallel circuit, current continues through other branches.

d. Adding devices and branches to a parallel circuit **Increases** the total electric current through the **Battery**.

C. Electric Circuits in the Home

1. Electric energy is generated at large **Power Plant**.

2. Before entering your house through a main **Wire**, the main wire passes through a(n) **Elec. Meter**, which measures the **Elec. Energy** used in your home.

3. **Fuses** and circuit **Breaker** are safety devices that keep the **Current** in a circuit from becoming too high.

4. A(n) **GFCI** is a safety device in an electric outlet that opens a circuit to stop current flow, which can help protect you from electric **Shock**.

D. Electric Safety

1. An electric shock occurs when a(n) **Elec. Current** passes through the **Human Body**.

2. Ways to protect yourself from electric shock include staying away from **Water** while using electric devices, avoiding using **Extension** cords, and not contacting electric power **Line**.