**Test Date*:\_\_\_\_\_\_\_\_\_\_\_*** ***Name: \_\_\_\_\_\_\_\_\_\_\_***

***Science***

**Unit 5 Study Guide**

**Vocabulary**

Potential Energy—Energy something has because of its position or condition

Kinetic Energy—Helps move an object

Chemical Energy—Using your muscle strength to move an object

Electromagnet—a device in which a current of electricity is used. (battery, copper, & a screw makes one)

**Facts**

Kinetic Energy + Potential Energy = Mechanical Energy

When a phone drops to the floor, the main energy is sound energy.

In a circuit, the battery provides a source of energy.

A circuit must have a complete loop in order to light up a bulb.

A closed circuit can turn on a bulb, sound a buzzer, or turn on an electric motor, when wired correctly.

Parts of a circuit: wire—allows electricity to flow

 light bulb—changes electrical energy to light energy, and a small amount of heat

 battery (cell)—main source of energy or power

Insulators—cotton, wool, glass, wood, rubber

Conductors—copper, iron, metal

***Types of Energy (examples)***

A person pulling a rope—Chemical Energy in the muscles

Dropping something heavy on the floor—Sound Energy when the book strikes the floor

Bread in a toaster—Electrical Energy

Turning on a lamp—Electrical Energy to Light Energy

Electric Stove—Electrical Energy to Heat Energy

***Short Answer:***

**When tossing an object:**

 The potential energy increases when the object is over their head. When the object is released, the potential energy decreases and kinetic energy increases as the ball is falling.

**Plastic straw:**

 Electric current flows through the metal (paper clip, nail, screw), but the electric current will not flow through anything plastic or rubber.

**Main differences in a series and parallel circuit:**

 Series—all the current flows through one path, so any breaks stops the current.

 Parallel—There is more than one path, so the current can continue flowing when there

 is a break in the circuit.

You must be able to look at a circuit and decide if it will work properly. Also if the circuit is missing pieces, what parts will allow the electricity to flow.