Chapter 3

Electricity & Magnetism Study Guide

1. How do we use electrical energy in everyday life?

To operate computers, televisions, and toaster.

1. What are some examples of energy being used to move or lift objects?

Riding a bike, carrying a book across the room, running to catch the bus

1. A cat stands at the edge of a table. It is about to jump to the floor. At this moment, what kind of energy does the cat have?

Potential energy

1. Describe an electromagnet?

A magnet created when electric current flows through wire coiled around an iron bar

1. What materials make the best insulators?

Rubber, glass, and plastic

1. Why is it important to make sure that electric cords are covered in plastic?

Plastic is a good insulator

1. In a closed circuit if you replaced a metal switch with one made of plastic, what would happen when you turn the switch on?

The circuit will stay open and the bulb will not come on

1. A material is classified as a \_\_\_\_\_conductor\_\_\_\_\_\_\_\_ if it can let electric charges flow through it.
2. An electric circuit is made from a D-cell battery, two wires, and a light bulb. What flows through the wires? \_\_\_Electrons\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What purpose does the light bulb serve in the electric circuit shown?

resistor



1. A switch is connected into an electric circuit. How is the electric current affected when the switch is turned off?

The circuit becomes broken and the current stops flowing

1. What parts make up a typical electric circuit?

An energy source, resistor, switch, and wire

1. What makes a material a good conductor?

A conductor allows electricity to flow through it

1. In order for electricity to flow, it must follow a complete path called an \_\_\_\_\_closed\_\_\_\_\_\_\_ circuit.
2. What characteristic defines an insulator?

Electric charges do not move easily through them

1. What is the purpose of including a switch in an electric circuit?

A switch allows the circuit to be open or closed.

1. Make a prediction on what would happen if the nails are dropped on top of a horseshoe shaped magnet?

Most of the nails will fall onto the end of the magnet.

1. How is Earth like a magnet?

Earth has an invisible magnetic field with many magnetic poles