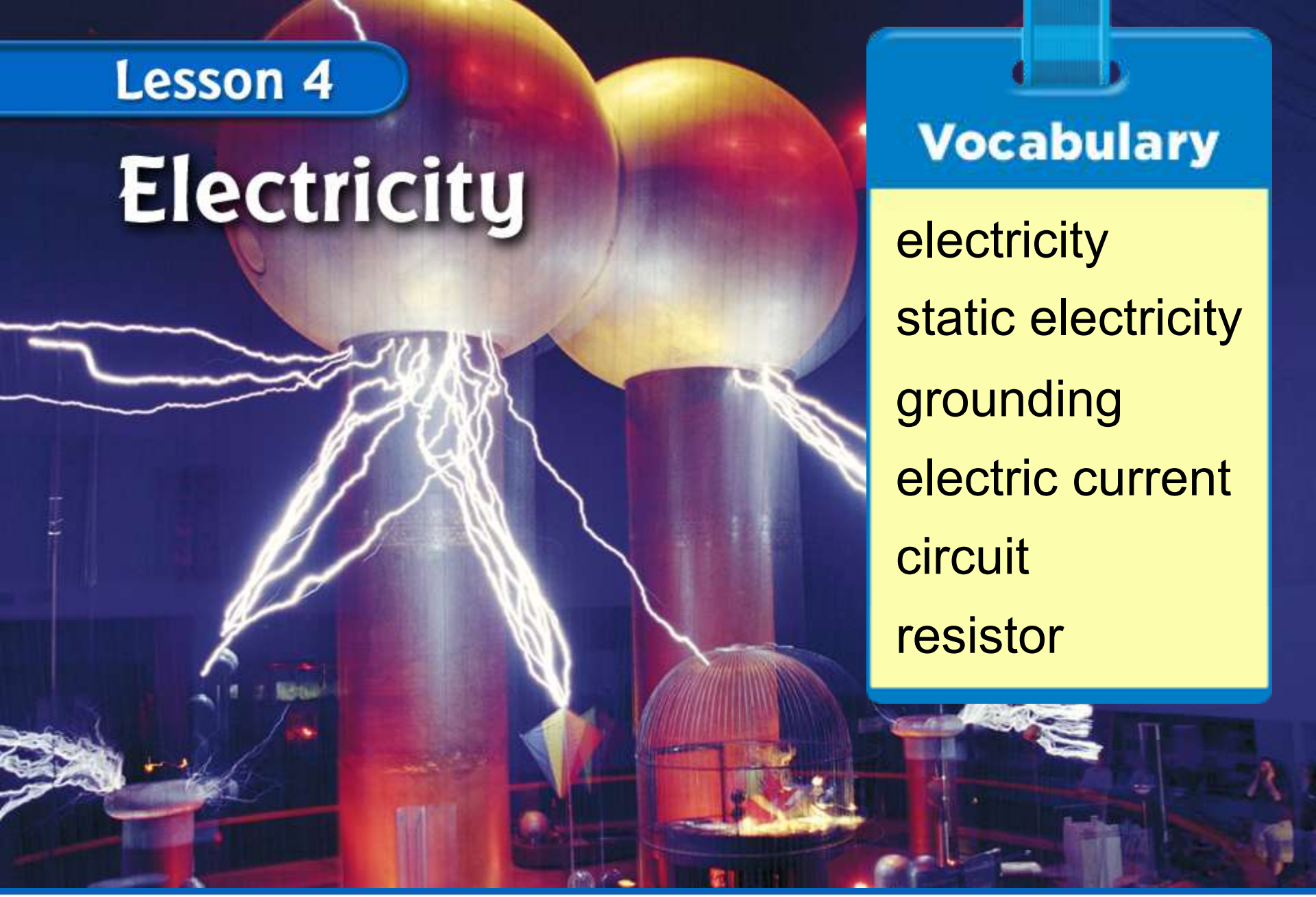


Lesson 4

Electricity

Vocabulary

electricity

static electricity

grounding

electric current

circuit

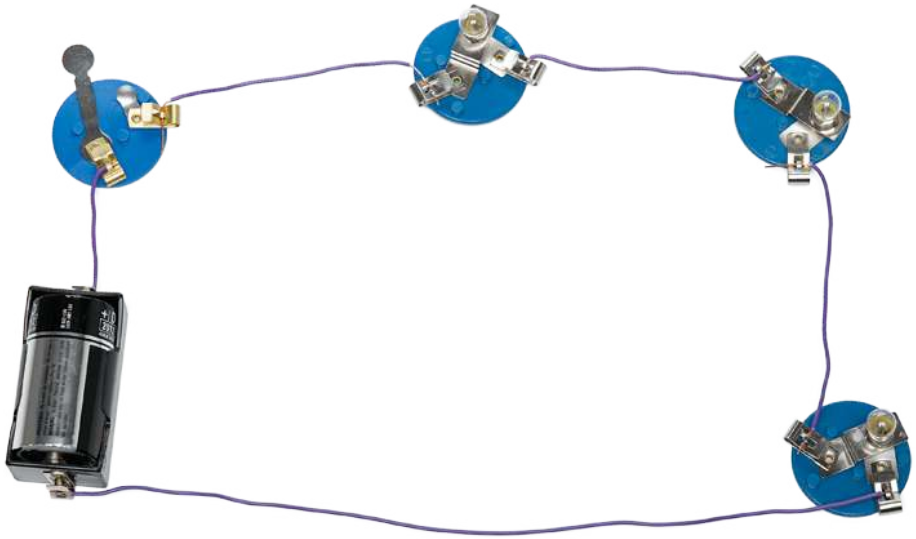
resistor

What is static electricity?

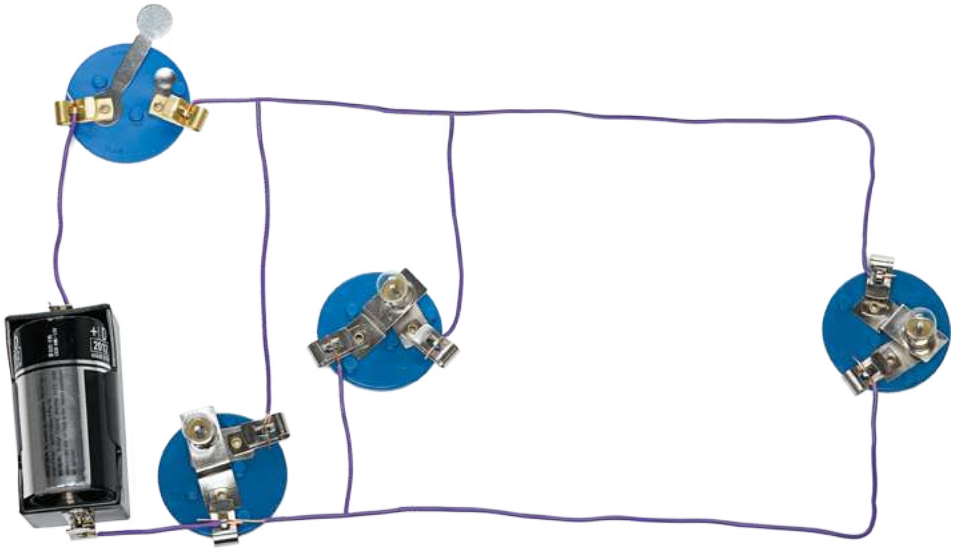
How can electricity flow?

A circuit is formed when an electric current passes through an unbroken path of conductors.

What kinds of circuits are there?



series circuit



parallel circuit

How can you use electricity safely?

Review

Vocabulary

A _____ is formed when an electric current passes through an unbroken path of conductors.

Electricity is the movement of electrons.

Static electricity is the buildup of charged particles.

static electricity electricity circuit

Review

Vocabulary

Electric current is a flow of electricity through a conductor.

An object in an electrical circuit that resists the flow of electrons is called a _____.

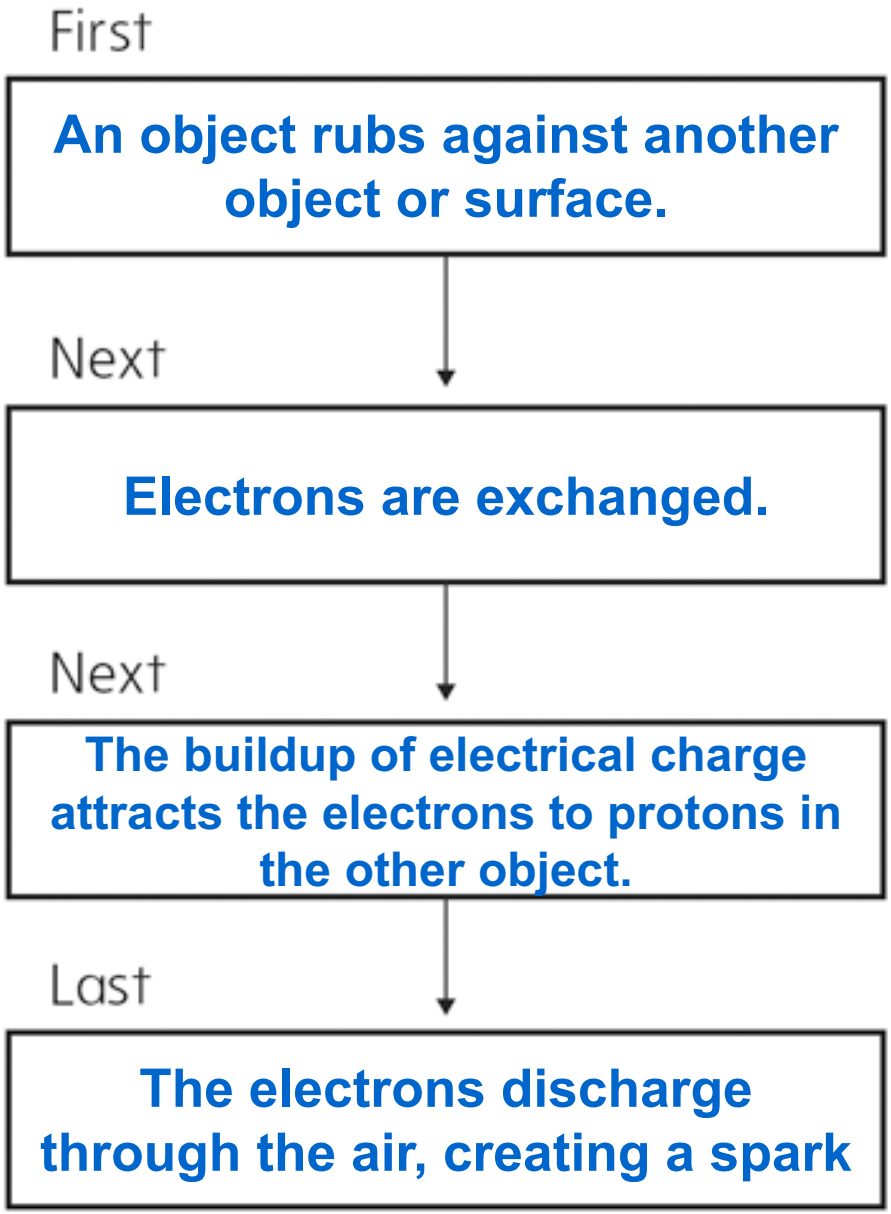
Grounding occurs when a conductor shares its excess charge with a much larger conductor.

electric current grounding resistor

Review

Sequence

What happens as objects rub together and form sparks?



End of Lesson

Vocabulary

electricity (i·lek·tris'i·tē) The movement of electrons. (p. 666)

Vocabulary

static electricity (stat′ik i·lek·tris′i·tē) The buildup of charged particles. (p. 666)

Vocabulary

grounding (ground'ing) Connecting an object to Earth with a conducting wire to prevent the buildup of static electricity. (p. 667)

Vocabulary

electric current (i·lek′trik kûr′ənt) A flow of electricity through a conductor. (p. 668)

Vocabulary

circuit (sûr´kit) A loop formed when electric current passes through an unbroken path of conductors. (p. 668)

Vocabulary

resistor (ri·zis′tər) An object in an electrical circuit that resists the flow of electrons. (p. 668)

Lesson 5

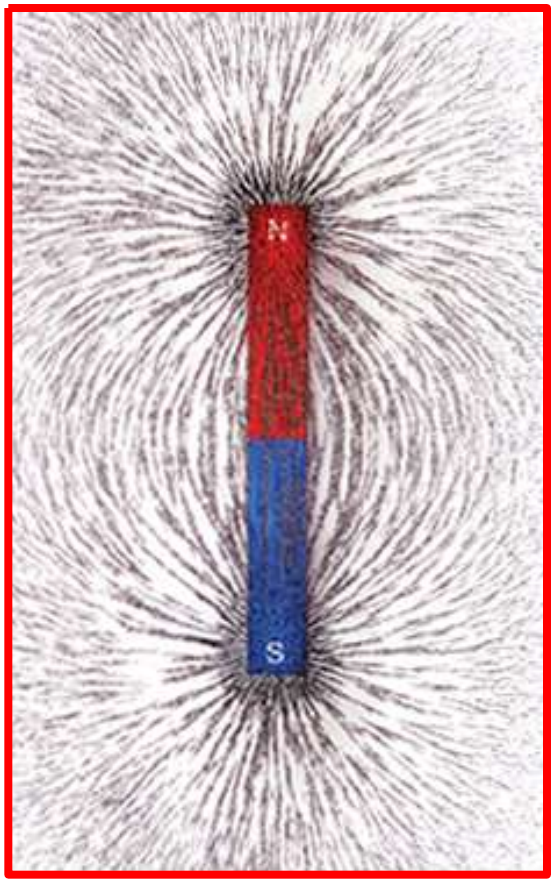
Magnetism

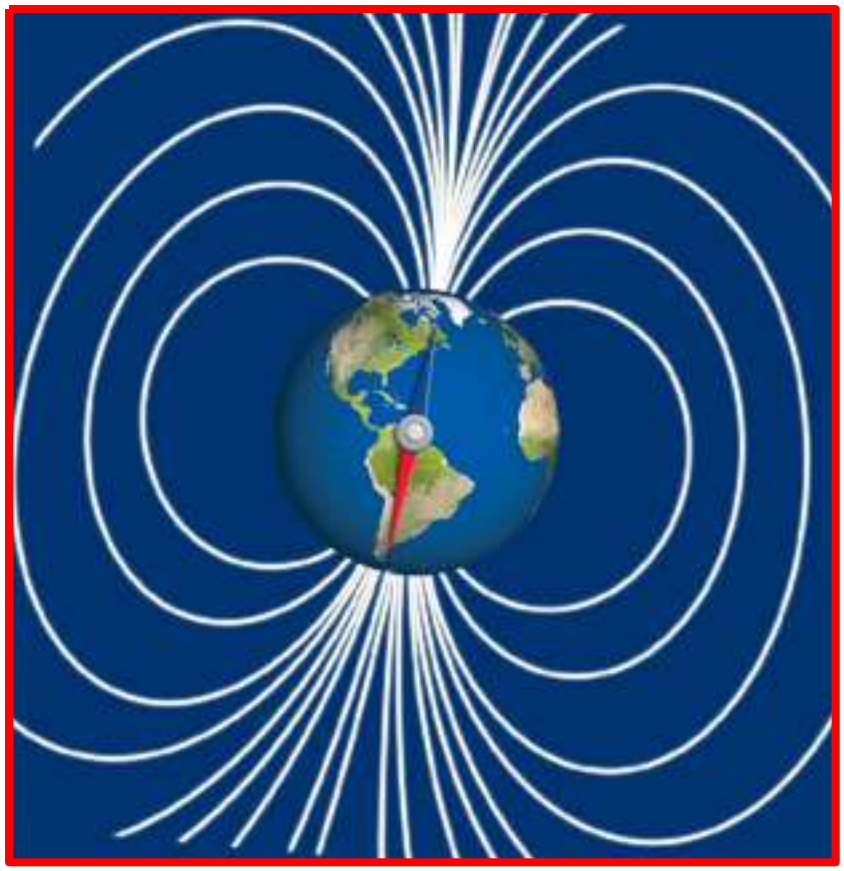
Vocabulary

- magnetism
- magnetic field
- electromagnet
- generator
- alternating current
- magnetic levitation

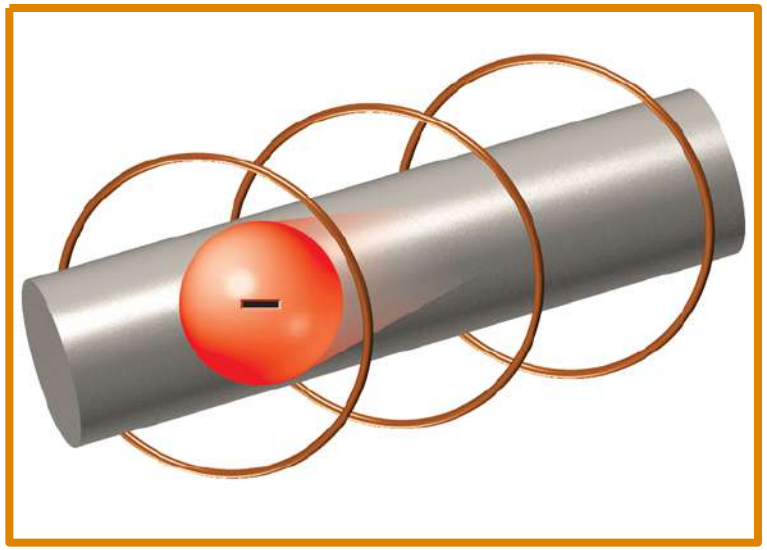
What is magnetism?

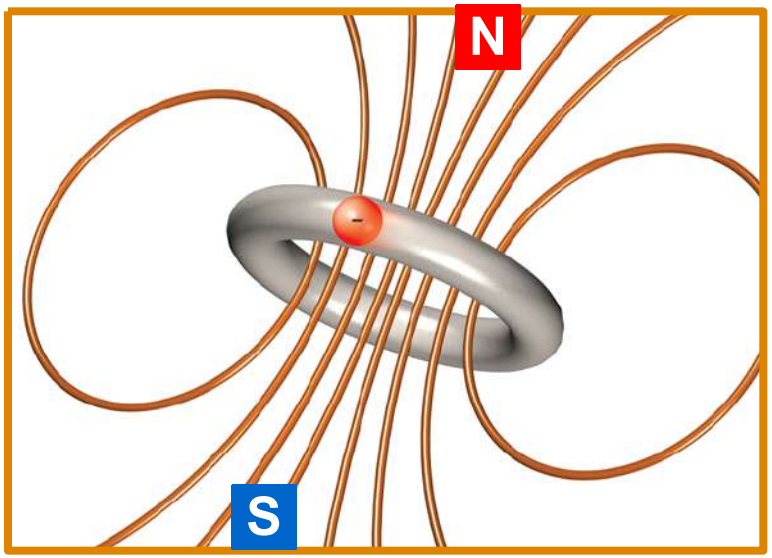
Magnetism is the ability of an object to pull on another object that has the magnetic property.

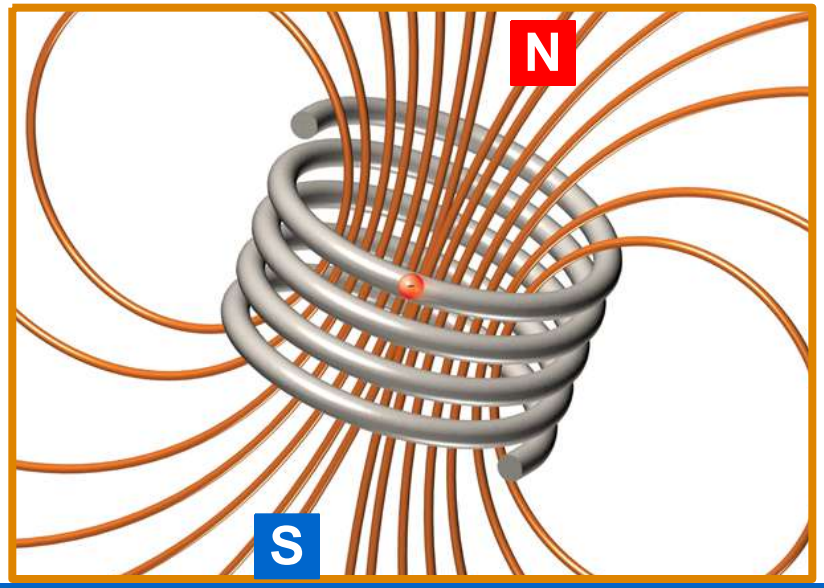




What are electromagnets?

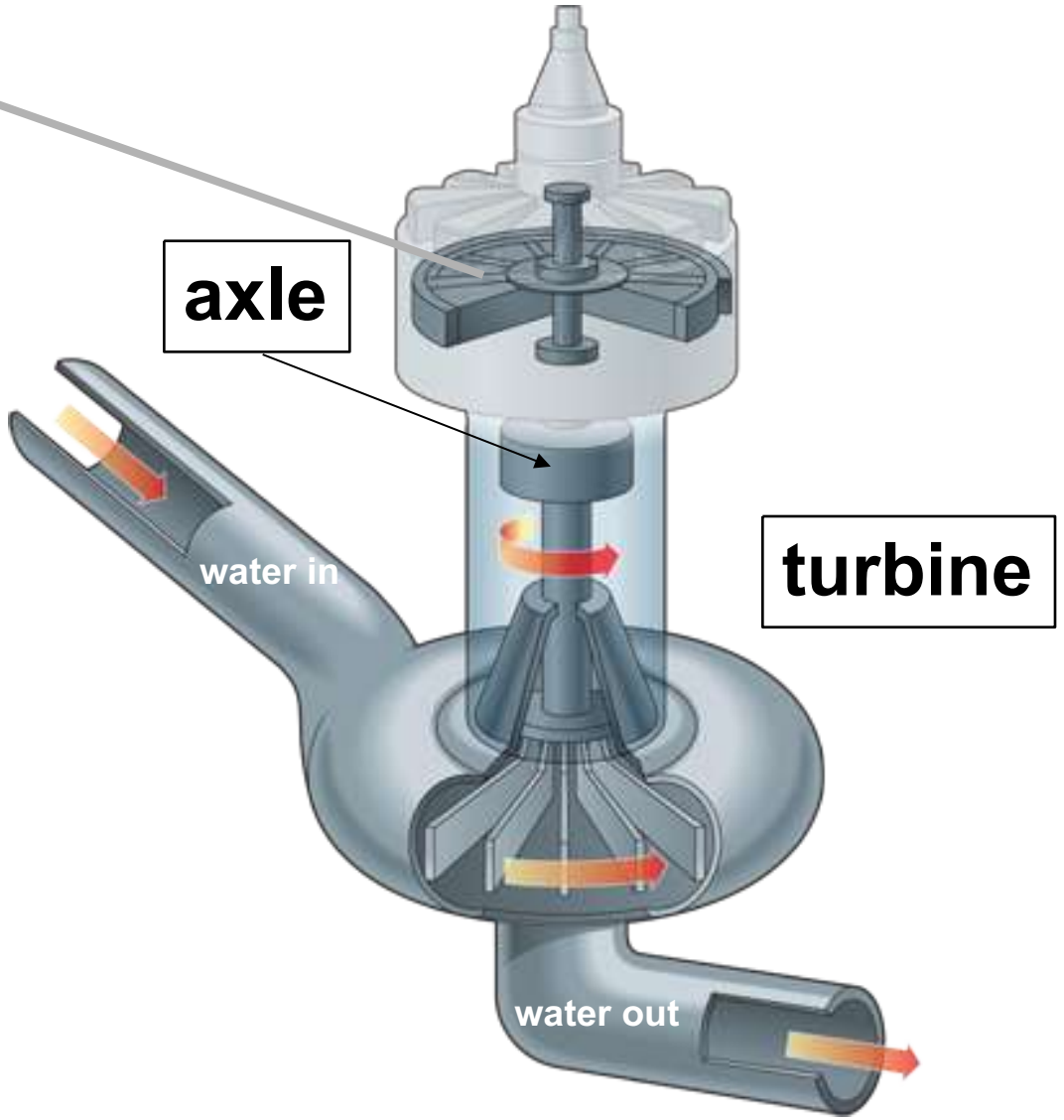




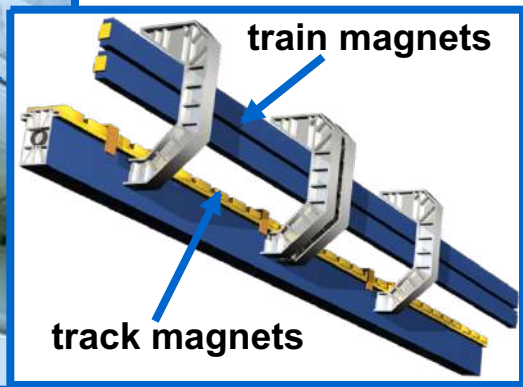


How can magnets produce electricity?

As the coils spins next to magnets, high-voltage electricity is generated.



What is magnetic levitation?



Review

Main Idea

What happens when a bar magnet is cut in half?

Two bar magnets are formed, each with a north and south pole.

Review

Vocabulary

Magnetic levitation is the lifting of an object by means of magnetic forces.

The directional lines of the magnetic forces around a magnet are called the _____.

Alternating current is electric current that rapidly changes directions.

alternating current magnetic levitation

magnetic field

Review

Vocabulary

An electric circuit that produces a magnetic field is called an _____.

Magnetism is the ability of an object to push or pull on another object that has the magnetic property.

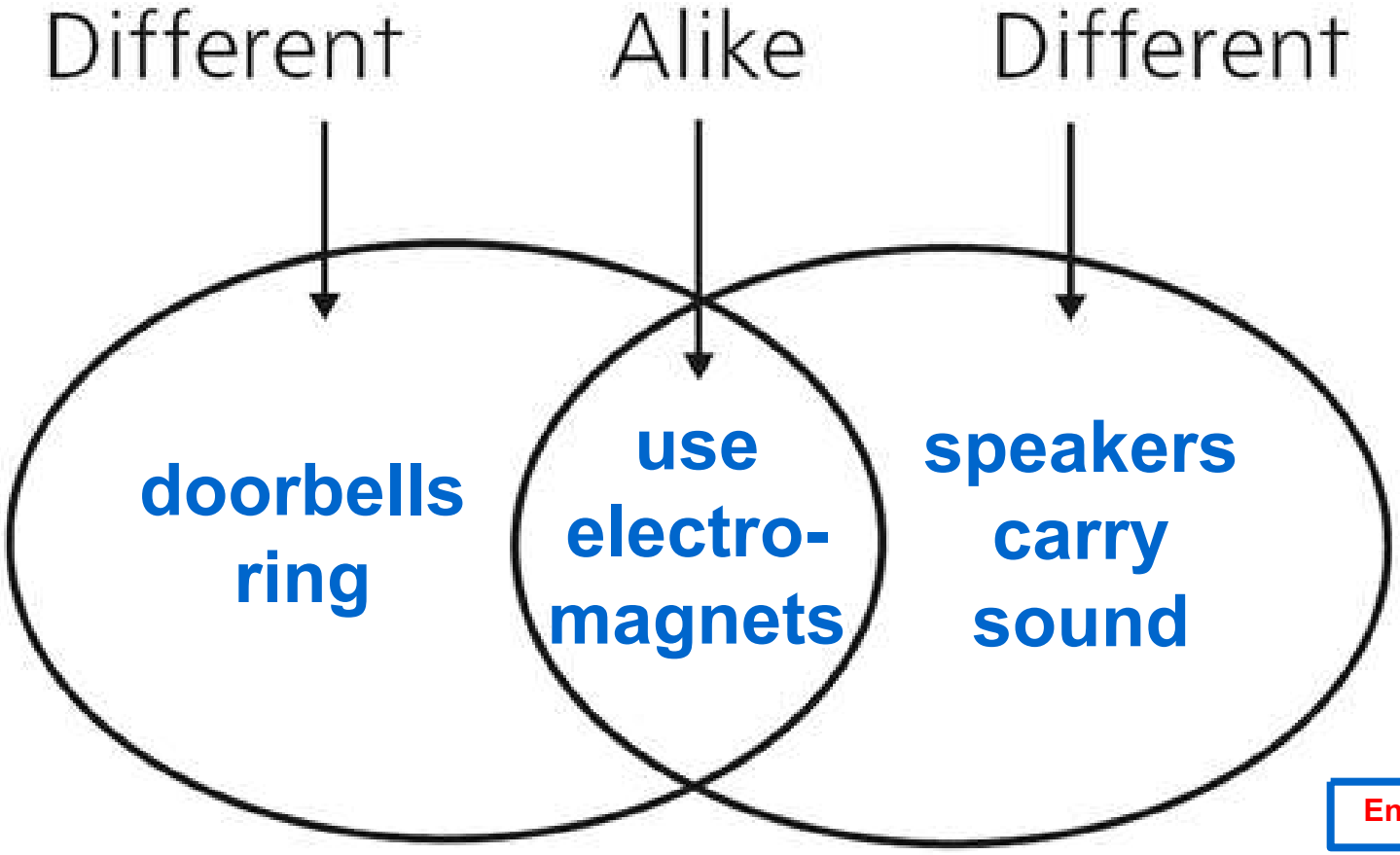
A _____ is a device that creates electric current by spinning an electric coil between the poles of a magnet.

electromagnet magnetism generator

Review

Compare and Contrast

How are electric doorbells and speakers similar and different?



End of Lesson

Vocabulary

magnetism (mag′ni·tiz′əm) The ability of an object to push or pull on another object that has the magnetic property. (p. 678)

Vocabulary

magnetic field (mag·net´ik fēld) A region of magnetic force around a magnet, represented by lines. (p. 679)

Vocabulary

electromagnet (i·lek′trō·mag′nit) An electric circuit that produces a magnetic field. (p. 680)

Vocabulary

generator (jen′ə·rā′tər) A device that creates electric current by spinning an electric coil between the poles of a magnet. (p. 682)

Vocabulary

alternating current (ôl′tər·nāt·ing kûr′ənt)
Electric current that changes directions many times per second. (p. 682)

Vocabulary

magnetic levitation (mag·net´ik lev´i·tā´shən) The lifting of an object by means of magnetic forces. (p. 684)