

Study the Electricity and Magnetism vocabulary in your science notebook.

How does static electricity form? Describe and draw a model to support your answer. (textbook p. 84)

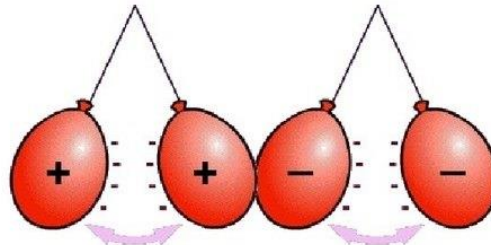
Static electricity is the buildup of charged particles in a material. Objects with opposite charges attract (to pull together) each other. Objects with the same charge repel (to push apart) each other.

Two objects with static charges can attract or repel each other much like magnets.

If the charges are the same (both positive or both negative) the objects will repel just like magnets.

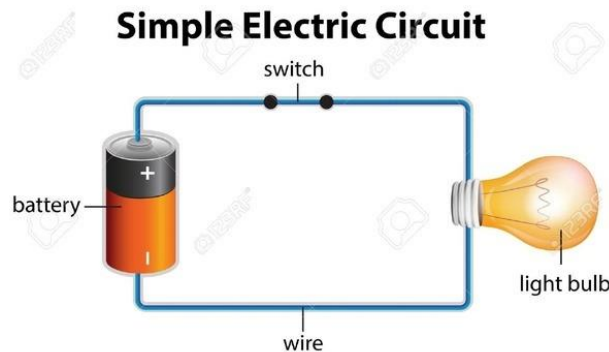
If the charges are different, they attract.

(Opposites attract)



Draw a series/simple circuit. Label the parts and explain how it works.

A circuit is formed when an electric current passes through an unbroken path of conductors. The battery supplies electrical energy. The wires are conductors that carry electric current from the battery to the light bulb(s) and back to the battery.



What is human-harnessed electricity? Describe one way it is produced. (textbook p. 86-87)

Humans can make electricity and use it to power things. We use electricity to do things such as heat homes and power televisions and computers. To do this, the electrical energy is turned into other forms of energy. For example, a TV turns electrical energy into light. The TV's speakers turn electrical energy into sound.

- ✓ solar panels turn light and heat from the sun into electrical energy
- ✓ wind farms use the energy from wind to produce electric current
- ✓ hydroelectric dams turn the energy of moving water into electrical energy

What is magnetism? (textbook pg. 94)

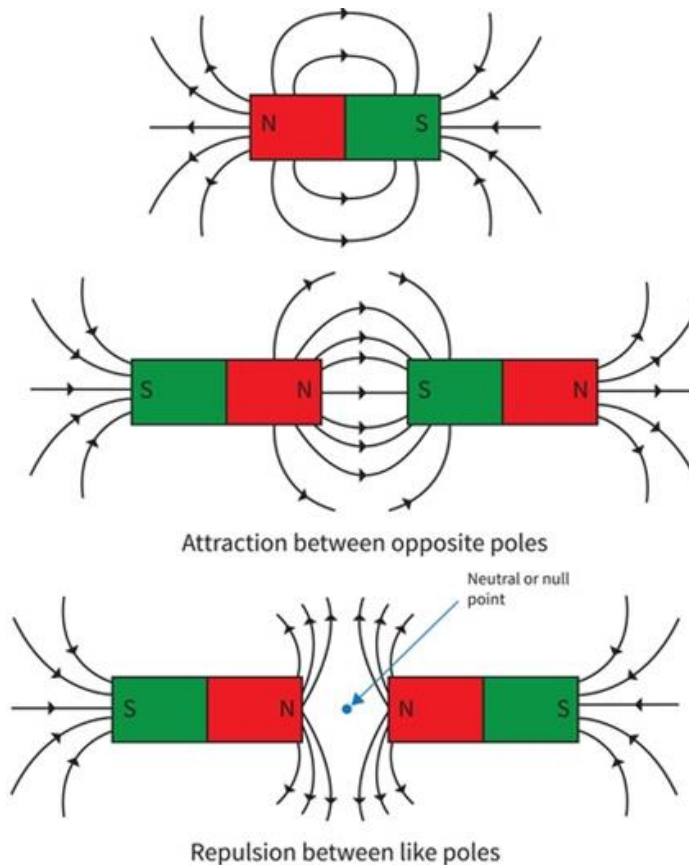
Magnetism is the ability of an object to push or pull another object that has the magnetic property.

What is a magnetic field? (textbook pg. 96)

A magnetic field is the area of magnetic force around a magnet. Every magnet has a magnetic field that wraps around it.

Draw a picture of a poles N and S coming near each other. Show the magnetic field lines for each magnet. Explain what is happening. (copy illustration on text pg. 97)

Magnetic fields explain how magnets act on each other without touching each other. The directions of the arrows on the field lines show the directions of the magnetic forces. They show whether the poles push or pull each other. The magnets do not have to touch, because their fields are acting on each other.



What is an electromagnet? (textbook pg. 98)

An electromagnet is a type of magnet whose magnetic field is produced by an electric current.

Is electricity important in making an electromagnet? (textbook pg. 100)

Yes, electric current has a magnetic field around it. Making electric current flow in an electromagnet is what produces the magnetic field.