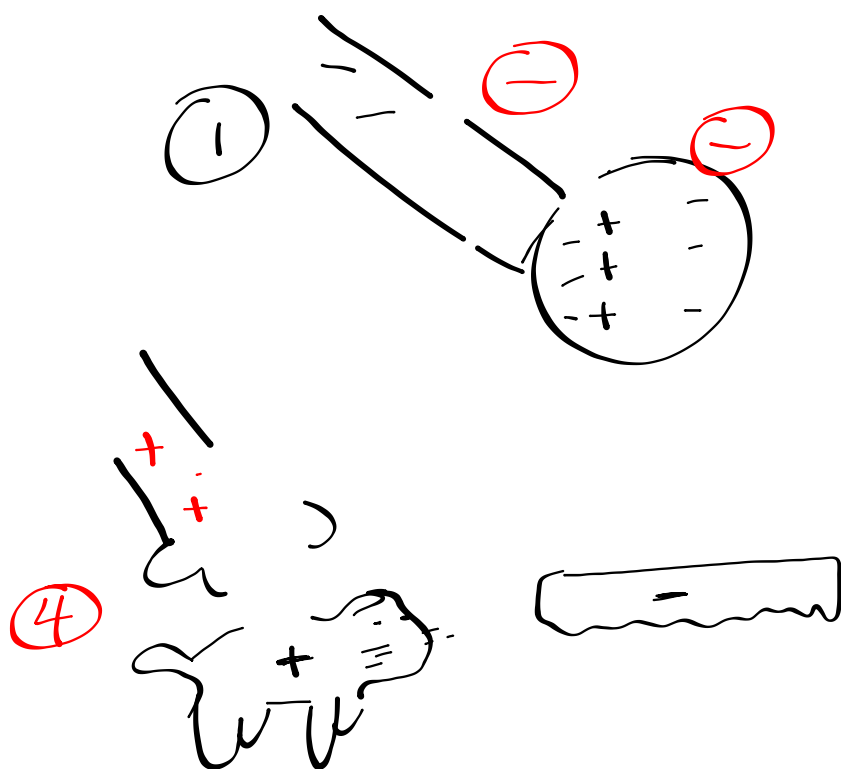


p. 279 #1-4



Charging by...

Contact

Friction

Insulators

Electrical Insulator: a substance in which electrons cannot move freely from one atom to another.

Some elements have a tight hold on their **electrons**. Therefore, electrons cannot flow freely through them.

This property makes them good insulators.

These materials can protect us from electric shock.
Ex. rubber, paint or wax.

Look at **Table 1 p. 280.**

Conductors

Electrical Conductor: a substance in which electrons can move freely from one atom to another.

Some elements allow electrons to flow freely through them, making them good conductors. Ex. copper

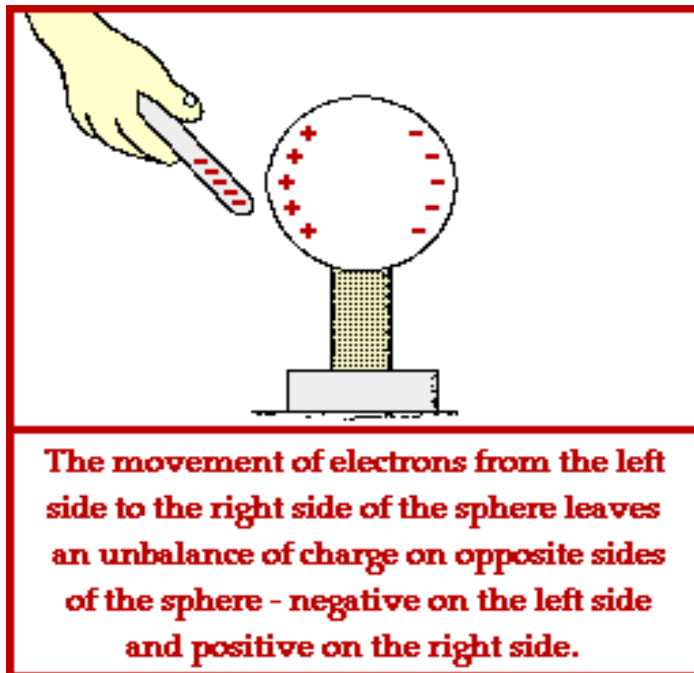
For example, you can not charge metal taps because the charge is conducted away to the ground.

Induction

There is a third way in which objects can become charged, **charging by induction**. When the term induction is used in physics it means that something happens without direct contact.



<http://www.physics.mun.ca/~jjerrett/induction/induction.html>



Homework

p. 283 #1,2

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Electric Current

- The flow or movement of electric charges (positive and negative) from one place to another is called **electric current**.



- Electric current flows through a controlled path called an **electric circuit**. Electric circuits are used to convert electrical energy into the other forms of energy.



Ex. a light bulb

The Parts of an Electric Circuit

1) Source of Electrical Energy: a way to produce electrical energy.
Ex. battery, cells

2) Electrical Load: what converts electrical energy into whatever form we need. More simply, whatever we are running at the time. Ex. toaster

3) Electric Circuit Control Device: controls the flow of electricity. Ex. light switch, thermostat

4) Connectors: the conducting wires (what the charges move through).

