Name: _____

ELECTRIC CIRCUITS KEY

Think about your day so far. How many times did you use something that required electricity?

_____

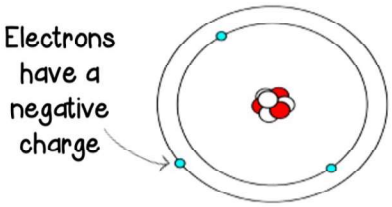
_____

1. Everything around us that has mass and takes up space is made up of matter.

   a. Matter is made up of tiny particles called atoms.

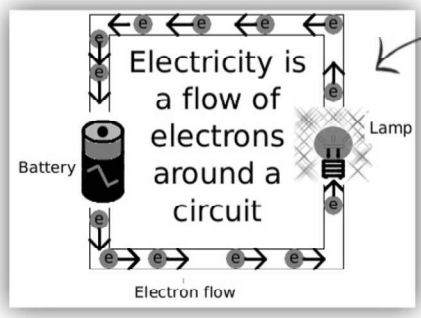
   b. Atoms are made up of even smaller particles called protons, neutrons, and electrons.

   c. Electrons can move from one atom to another.



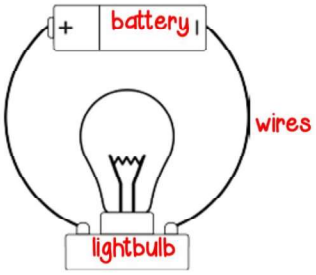
Electrons → Electric

2. When electrons move along wires, this is called electric current.

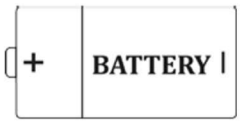


Electric circuit: a closed path along which electrons can flow.

A simple circuit must have:

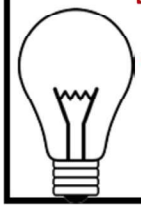


This part gives up electrons (pushes them out)



This part takes in electrons.

Wires have two parts: a metal part and a plastic part.

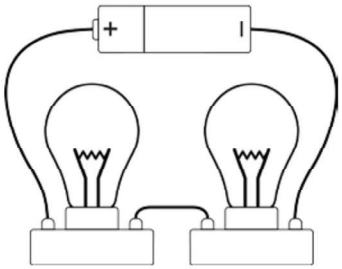


Wires in a circuit are usually made out of copper. Electrons move easily from atoms to atoms in a metal because metals are conductors. The rubber coating is an insulator which makes the wire safe to touch.

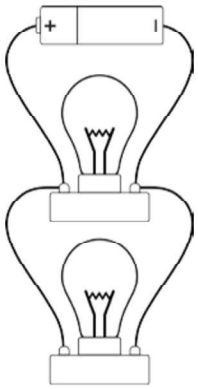
- If the switch is up, the circuit is open.
- If the switch is down, the circuit is closed.

Types of Circuits

In a series circuit, there is only one path for current to flow.



In a parallel circuit, there is more than one path for current to flow.



What type of circuit do you think homes have? Why?

- Your home is made up of parallel circuits.
- Each outlet is connected to a circuit box.

- To protect your house, the circuit box has a safety feature called a circuit breaker.
- When a circuit overheats, it melts a that opens the circuit.