_____Electricity_____ is generated from the motion of tiny charged atomic particles called electrons and protons. Electrons in different energy levels can __jump____ from one atom to another. These jumps change the overall _charge__of the atoms. The __changes_ _in_ _charge__ result in electricity.

__Electric ___ ___current__is the flow of electric charges. Electric current is measured in _amperes_____(A), or amps. The difference in potential energy from one location to another is called ____potential__difference____. This potential difference is known as __voltage__ and is measured in __volts (V)___. Electric charges will always flow from a region of __higher___ potential energy to a region of __lower____ potential energy. A ___battery___ is a device that converts chemical energy into electricity. In batteries the potential energy difference is created by the __positive__ and ___negative___ terminals.

Ohm's law states that the current (I) in a wire is equal to the voltage (V) divided by the resistance (R).
Current (I) = Voltage (V)/Resistance (R)

A __circuit___is a path through which electricity can flow. Charges ___will___ ____flow___ in a circuit when there is potential difference.

A circuit needs an ____energy source to ___push__ a charge through the circuit.

- A battery creates a potential difference between its negative and positive terminals
- Electric charges are __repelled___ by negative terminal and ___attracted__ toward the positive terminal

A ____load___ is a device in a circuit that operates by using the electrical energy.

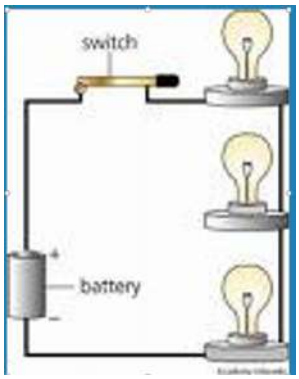
- Examples of loads are __light bulbs_____, ____bells___, ___radios__, ___motors__.

A ____conductor___is a material that __allows___ electrical energy to flow through it easily. ___Metals_____ make good conductors, so wires from metals are most often the conductors.

A __resistor__ is an object added to a circuit that ____restrict____the flow of electrical energy. Resistors inhibit the flow of electric current by producing a voltage drop when current passes through them. Resistors can be used to produce a desired ___potential__ __difference___. They limit ___current____and cause some electric energy to be given off as ___heat__.

A ___switch___ is a device that is used to ___control____the flow of current through a circuit. A switch works by separating ,__opening_____or bringing together,__closing___two conductors attached to the circuit. When a switch is ____open____, the path is broken, so ___no_____ __electricity____ flows through the circuit. When a switch is ___closed___, it creates a continuous path through which an electric charge _____can___ ___flow__.

A ___series cicui____is a circuit that provides only ____one____ possible path for the flow of current. In a series circuit, the loads are set up in a series, or ___l_____, that requires current to flow through one load before passing through the next.



A ____parallel circuit_____offers __more___ __than__ _____one___ path for the flow of electricity. Each ____load_____in a parallel circuit has _its__ __own___ closed circuit pathway to the energy source. Loads in a parallel circuit use the __full___ ___voltage__ of the energy source.