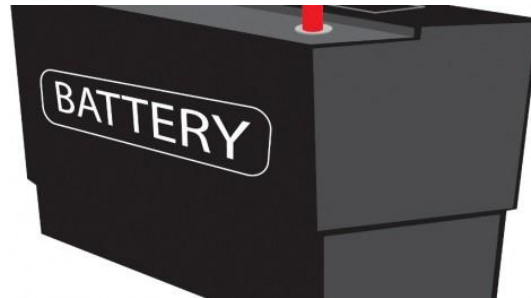


WHAT IS A BATTERY?



Energy cannot be destroyed or created, but it can be stored in various forms. One way to store energy is through chemical bonds in substances, which is the basic concept of fossil and batteries, which convert this energy into electricity.

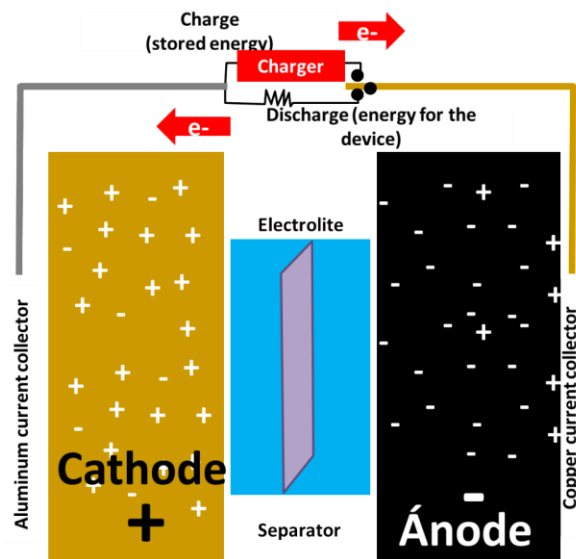
The basic components of a battery or electric battery (both work for the same purpose) are:

(1) A container which is typically a metal or plastic case and within it are the electrodes which occupy the bulk of the battery.



(2) Electrodes: Cells' containing a plate (electrolyte) which interacts with a chemical paste or special battery for the electrochemical reaction to occur and which connects with a terminal.

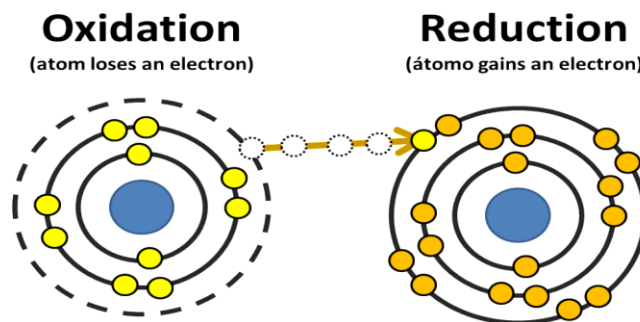
These cells are classified as cathodes (where reduced chemical reaction occurs) or anode (where a chemical reaction occurs oxidized). The electrodes are fixed and separated from each other, are not contact the electrolyte within the battery, and are separated.



(3) Terminals, wherein the electrolytes are connected, and where the circuit is connected to be fed. Each electrode connected to one of two terminals, negative (-) and positive (+).

When you turn on a device connected to a battery-powered circuit will form a “closed loop” between the two terminals of the battery and instantly begin an “electrochemical redox” reaction between the electrodes, where each electrolyte react with a special chemical.

At the anode, the electrolyte and the chemical reaction will form an “oxidation” (transfer of electrons from one substance to a compound), forming a negatively ionized compound (with excess electrons). At the cathode, the electrolyte and the chemical reaction will form a “reduction” (when a chemical reagent accepts electrons), forming a positively ionized compound (with no electrons, mostly with protons).



The electrons in excess will be repelled from each other by having the same charge, and will be released flowing through the circuit that connects the negative terminal (anode) to the positive (cathode), as fast as possible through the current generating circuit a voltage electric seeking positively ionized atoms.

The net result is electricity. The battery will continue to produce power until one or both electrodes are left without substance necessary for the reaction to occur.

As the flow leaves the cell plates and the special chemical that are immersed in the chemical composition changes gradually, so that as electric current flows, the stored charge is reduced, until the load of the battery is neutralized.

On its way from one terminal to the other, you can transfer the energy with a given voltage to the device that is connected to the circuit (a light bulb, a motor, or a heater).

If no action occurs to replace any charge from the electrode will eventually reach a point where no more energy could be obtained since the electrodes themselves cannot change their composition.

Among the batteries or non-rechargeable batteries are the most popular “Carbon-Zinc” that are economical batteries AAA, AA, C and D and alkaline. With zinc anodes, manganese dioxide cathodes and the difference in the electrolyte is used (in the alkali is potassium hydroxide and carbon in the zinc is zinc chloride).

Batteries or rechargeable batteries are “lithium ion”, used in most high performance appliances which use a lithium salt and “lead-acid” batteries used in automobiles.

In rechargeable batteries (secondary) chemical reaction is reversible. When electric power is applied from an external source such batteries, the flow of electrons from negative to positive occurs during unloading works in reverse and the battery is restored.

Lithium ion batteries are not recommended to discharge completely, as this can reduce its lifetime. It is recommended keep them in a cool place, avoid heat. If such batteries are stored for a long time, they might even conserve a charge of almost 40 %.

It is a myth that a lithium battery must be charged for a long time the first time, and must be careful not to overload them as this can lead to a decrease in capacity.

Source: <http://www.artinaid.com/2013/04/what-is-a-battery/>