**marché\_science\_Alimentation\_Batterie\_atraduire**

**THE BASICS**

A battery is made up of an anode, cathode, separator, electrolyte, and two current collectors (positive and negative). The anode and cathode store the lithium. The electrolyte carries positively charged lithium ions from the anode to the cathode and vice versa through the separator. The movement of the lithium ions creates free electrons in the anode which creates a charge at the positive current collector. The electrical current then flows from the current collector through a device being powered (cell phone, computer, etc.) to the negative current collector. The separator blocks the flow of electrons inside the battery.

**CHARGE/DISCHARGE**

While the battery is discharging and providing an electric current, the anode releases lithium ions to the cathode, generating a flow of electrons from one side to the other. When plugging in the device, the opposite happens: Lithium ions are released by the cathode and received by the anode.

**ENERGY DENSITY VS. POWER DENSITY**

The two most common concepts associated with batteries are energy density and power density. Energy density is measured in watt-hours per kilogram (Wh/kg) and is the amount of energy the battery can store with respect to its mass. Power density is measured in watts per kilogram (W/kg) and is the amount of power that can be generated by the battery with respect to its mass. To draw a clearer picture, think of draining a pool. Energy density is similar to the size of the pool, while power density is comparable to draining the pool as quickly as possible.

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Source : https://www.energy.gov/eere/articles/how-does-lithium-ion-battery-

work#:~:text=The%20electrolyte%20carries%20positively%20charged,at%20the%20positive%20current%20collector.&text=The%20separator%20blocks%20the%20flow%20of%20electrons%20inside%20the%20battery