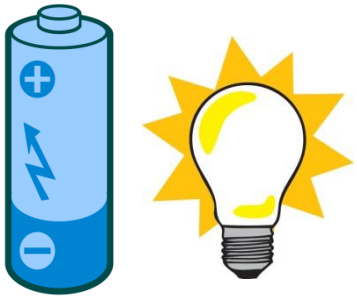
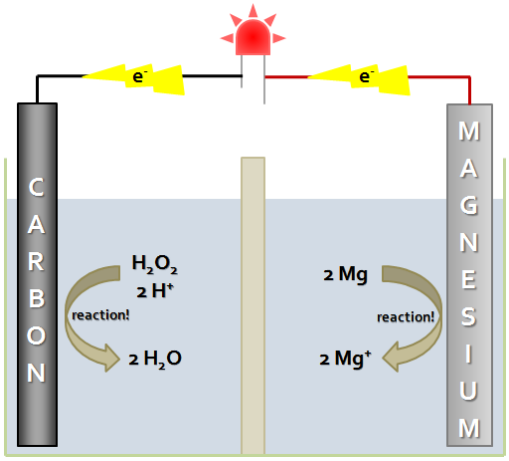
CLEAN ENERGY INSTITUTE
UNIVERSITY of WASHINGTON

A Battery From Household Chemicals

We use batteries to power lots of different things, from TV remotes to computers. Some cars even run on batteries instead of gasoline! So where does all that power come from?

All batteries, big and small, get their power from chemical reactions happening inside of them. When certain types of chemicals react, they give up electricity, and this is what we harness to produce energy. When you turn on a laptop computer, or press a button on a TV remote, you're making chemistry happen! While the two ends of the battery are connected and electricity is flowing, the chemicals can react until they're all used up, and that's when your battery stops working.





This demonstration is a fully functioning battery, which runs only on chemicals you might have in your own house. In the middle cup is magnesium metal (a fire starter for camping), surrounded by water with table salt (sodium chloride) dissolved in it. In the outer cup is hydrogen peroxide from the drugstore mixed with vinegar, a type of mild acid. The black rod is carbon, which helps to pull the electricity out.

Without wires connecting the carbon and magnesium, nothing happens. But when you connect the wires, magnesium reacts and gives up electricity, which then travels through the red LED, lights it up, and moves into the carbon. There, the electricity reacts with the hydrogen peroxide and vinegar to produce water.

The batteries we use in daily life are a little more complicated than this one, but they all work in the same general way. So remember, the next time you start your car or make a phone call, chemistry made it happen!