

How Does A Toaster or Hair Dryer Work?

Appliances that heat up, such as a hair dryer, a clothes iron, toaster, electric toaster oven, or an electric space heater all work on the same idea. They change electrical energy to heat energy.



Photo courtesy: Cuisinart®

The devices all plug into a source of electricity. Electric current runs from your wall socket down the wire and into the appliance.

Inside each of the appliances are loops of special mixture of metals. One type is called nichrome. Nichrome is a nickel / chromium alloy.

Electricity cannot pass through this special metal very easily. The metal slows down the electrons and "holds up" the current flowing through it. This is called the "resistance" of the metal. When the resistance of a metal is higher, the metal will get hot because of the friction of the electrons in the current of electricity.

As the electricity is forced through the wires, the wires begin to heat up and glow very hot. If you look inside your toaster, you'll see those coils or wire glowing orange. It's those coils or loops of wire that cause the bread to brown making your toast.