

## Different Kinds of Light Bulbs

The incandescent light bulb has been in existence for over 100 years. An incandescent bulb works by sending electric current through a resistive wire or filament. This resistance of the electric current produces heat. The heating of the filament in the bulb also produces light, but the proportion of light to heat is low for this type of bulb. Compared to more efficient lamps described below, an incandescent light bulb uses more electricity to produce a given amount of light.

Fluorescent lighting passes an electrical current through a gas, which in turn begins to glow when the gas is excited by the current. This is a more efficient way to produce light, since more lumens of light are produced per watt of power. Fluorescent lamps use tubes and special fixtures, so they are commonly used for kitchens, bathrooms, shop lights, and so on. You would probably not put a long fluorescent tube fixture in your living room.

But fluorescent lamps are also available in the form of more compact bulbs that fit in traditional sockets. These bulbs are called compact fluorescent lamps, or CFLs. They use about 1/5 of the electricity that an old-style incandescent bulb does to produce the same amount of light.

Two notes of caution about CFLs: 1.) When a CFL is screwed into a ceiling fixture, so that the bulb is below the socket, the heat rising from the bulb can burn out the electronics in the base of the bulb and shorten its life considerably. 2.) CFLs contain mercury, so they must be disposed of very carefully at a special disposal site. Contact your town's recycling office for the best way to dispose of fluorescent lamps of all types. The standard way is to store burned out CFLs in a safe place where they will not break, until there is a household hazardous waste collection event. But more immediate disposal sites (such as the south end of the 2nd floor of the City Hall in Middletown) are available too.

An even more efficient lighting technology uses LED bulbs. LED stands for "light emitting diode." LEDs produce a high amount of light per watt of power. Additional advantages are that LEDs do not contain mercury, and they last even longer (up to 50,000 hours) compared to CFLs (up to 10,000 hours) and compared to old-style incandescent bulbs (1000 hours). LEDs are more expensive, but their long-life makes them cost-competitive over the life of the bulb.

CFL and LED light bulbs can be found in most hardware and home product stores. Be sure to note the "color" of the light produced by a given light bulb before you buy it. "Cooler" lights (that look more like daylight) have higher temperature ratings of 4000-5000K. These are great for outdoor lighting, since the human eye sees better in that color range and the whiter color makes people feel safer. "Warmer" light (meaning it is yellower, but has a cooler temperature rating in the 2500K area) is more suitable for your living room or bedroom.