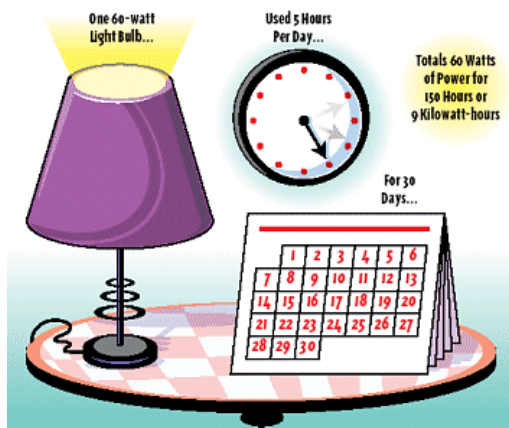


# Watt's a Watt?



## Fun Fact

Watts can express the energy output of the Sun as well as a light bulb. The "Wattage" of the Sun, if you think of it as the biggest light bulb around, is about 386,000,000,000,000,000,000,000,000 Watts--386 million billion.

## Kilowatt hours

The amount of electricity a power plant generates or a customer uses over a period of time is measured in kilowatt-hours (kWh). Kilowatt-hours are determined by multiplying the number of watts required by the number of hours of use, and then dividing by 1,000.

For example, if you use a 60-watt light bulb 5 hours a day for 30 days, you have used 60 watts of power for 150 hours, or 9 kilowatt-hours ( $60 \times 150 = 9,000$ ) of electrical energy.

Watts x hours a day x number of days = Watt-hours

$$60 \times 5 \times 30 = 9,000 \text{ Watt-hours}$$

Watt-hours/1,000 = kWh

$$9,000/1,000 = 9 \text{ kWh every 30 days}$$

Another example, a 75-watt light bulb will consume 75 watt-hours over the course of an hour. If the bulb is used 6 hours each day for thirty days, the resulting usage will be 75 watt-hours x 6 hours x 30 days, or 13,500 watt-hours (13.5 kWh).

Watts x hours a day x number of days = Watt-hours

$$75 \times 6 \times 30 = 13,500 \text{ Watt-hours}$$

Watt-hours/1,000 = kWh

$$13,500/1,000 = 13.5 \text{ kWh every 30 days}$$

## A bit of history...

A watt is the unit of measure used in electricity. The watt is named after James Watt (1736–1819), who made major contributions to the development of the steam engine.

## Terms:

Watt – a basic unit of power, often associated with electricity, i.e., a 60-watt light bulb.

Kilowatt – a unit of power equal to one thousand watts. One kilowatt is slightly more than one horsepower.

Kilowatt-hour – a unit of energy (power x time), the amount of energy used to provide one kilowatt of power for one hour. Using ten 100 watt light bulbs for one hour will use one kilowatt-hour of energy.