

Electrical power & efficiency

Canada's EnerGuide helps inform us about how efficient an appliance is. We can buy and use wisely.
(There is a note about EnerGuide. Please be familiar with this labelling system)

Energy is the ability to do work.

Unit = Joules (J)

Power – is the rate at which energy is used.

Unit = Joules/second (J/s)

1 Joule/second = 1 Watt

Explain power with lightbulbs

Usually we measure power in Watts (W)

A 40 W lightbulb uses less energy each second than a 100 W lightbulb.

We are billed by electric companies. The more we use, the higher our bills.

So it is more expensive to turn on 100 W light bulbs compared to 40W.

Explain power with CFL's

Compact Fluorescent Lightbulbs (CFL's) use even less power to run.

Good for environment & saves us money!

But CFL's and regular lightbulbs contain toxic mercury

Explain power with LED's

LED's use even LESS energy. No mercury!

(light emitting diodes)

How efficient is it?

A new clothes dryer is rated at 300 kW·h

An old clothes dryer is rated at 800 kW·h

They both do the same job.

So the new one is more efficient since it uses less energy (and wastes less).

Homework:

Read 12.7 especially math parts!

Do # 2,3,4 on page 535

List 5 electrical appliances you use often. If you can see the EnerGuide rating, write it down too!