

**CONCEPT** Joule (J) is the SI unit of work and all other forms of energy.

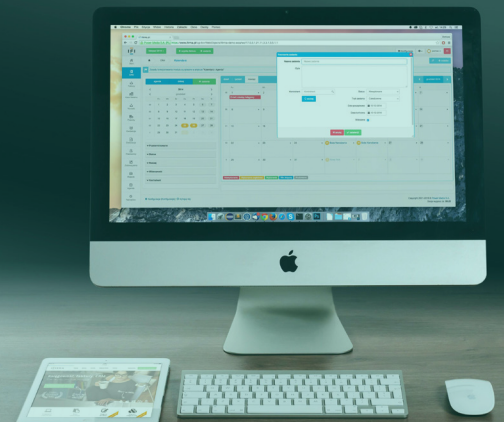
## BACKGROUND

The joule is named for the British physicist James Prescott Joule. Joule is a derived unit of energy. It is equal to the energy transferred to an object when a force of one newton acts on that object in the direction of its motion through a distance of one meter.

## REAL WORLD CONNECTIONS

Quantities of energy usage:

- Large electric heater= 10 kilojoules
- Desktop computer, person standing, incandescent light= 100 Joules
- An average car will use about 50 GJ of fuel per year.
- A 10-minute shower equals 10 Megajoules.
- Running a large TV or PC for an hour uses 1Megajoule.



## EXAMPLES

- The energy required to lift a small apple one meter straight up
- The energy released when that same apple falls one meter to the ground
- The kinetic energy of a human moving very slowly
- The amount of electricity required to light a 1 watt LED