

### Power

Power is the rate of energy transfer

$$P = \frac{W}{t}$$

We use W to represent the energy but because of the law of conservation of energy it can be any form of energy.

### Power

Notice the symbol is uppercase (capitol) P  
lowercase p is the symbol for momentum!  
The units are J/s or Watts (abbreviated W)  
Watts are the same as  $\text{kg m}^2/\text{s}^3$

### Power

In the English system power is often expressed as "horse power" (HP).

$$1 \text{ HP} = 746 \text{ W}$$

$$1 \text{ HP} = 550 \text{ lb ft/s}$$

Electrical energy is often sold as kilowatt hours (kW hr).

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