

# Power (Rate of Work)

○  $P = W / \Delta t$

□ Units: Joules/Second = Watt

- How much power does it take for a (70 kg) student to run up the stairs in 141 Loomis (5 meters) in 7 sec?

$$P = W / t$$

$$= m g h / t$$

$$= (70 \text{ kg}) (9.8 \text{ m/s}^2) (5 \text{ m}) / 7 \text{ s}$$

$$= 490 \text{ J/s} \quad \text{or} \quad 490 \text{ Watts}$$