

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?

$$\begin{aligned}P &= W / t \\&= m g h / t \\&= (70 \text{ kg}) (9.8 \text{ m/s}^2) (5 \text{ m}) / 7 \text{ s} \\&= 490 \text{ J/s} \quad \text{or } 490 \text{ Watts}\end{aligned}$$