PH 111

# Work and Energy

$W = F\cos\theta \cdot \Delta x$

Positive when $F\cos\theta$ and $x$ in the same direction

Units:

joule J

dyne-centimeter erg

ft-lb

$W = \vec{F} \cdot \vec{s}$

$W = \frac{1}{2}mv^2 - \frac{1}{2}mv_0^2$ work-energy theorem

$W = mgh$

No absolute potential energy

Conservative-work does not depend on path

Nonconservative-work depends on path

$E = KE + PE$

$P = Fv = W/t$