Units Connected to Energy

Recall:

- m = mass (kg)
- t = seconds (s)
- dist = meters (m)

} basic units

- vel. = $\left(\frac{m}{s}\right)$
- accel. = $\left(\frac{m}{s^2}\right)$

$F = ma = kg \times \frac{m}{s^2} = Newton\ (N)$ ← derived unit (a combo)

* Work = Force × dist = $N \times m$ = Joule (J)

* Kinetic Energy = $\frac{1}{2} m v^2 = kg \cdot \frac{m}{s} \cdot \frac{m}{s}$

$= kg \frac{m}{s^2} \cdot m$

$= N \cdot m = (J)$

Same

* Gravitational Potential Energy = mgh

$= kg \frac{m}{s^2} \cdot m$

$= N \cdot m = (J)$