Energy conversion efficiency, Calorimetry: cheat sheet

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FORMULAE

$$E_{kin} = \frac{1}{2}mv^2$$

$$E_{pot} = mgh$$

$$\eta\ (r) = \frac{E_{useful}}{E_{consumed}}$$

$$P\ [W] = \frac{Energy\ [J]}{duration\ [s]}$$

$$Q = C\ [J/kg/^{\circ}C]\ m\Delta T$$

REFERENCE UNITS

Energy E in Joules [J] (1J = 1Nm)
mass m in kilograms [kg]
speed v in meters/seconds [m/s]
height h in meters [m]
$\Delta T = T_{final} - T_{initial}$ in [°C]