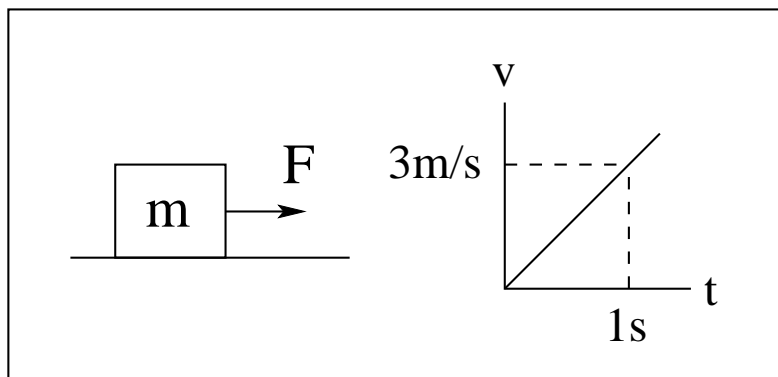


# Inertia: Mechanical vs Electrical

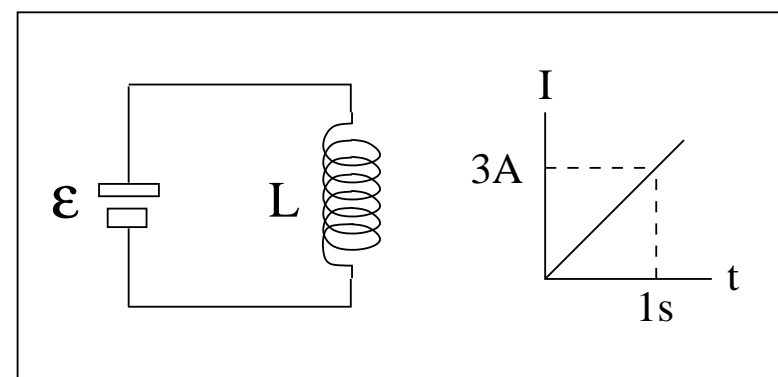


$$F = 6\text{N}, \quad m = 2\text{kg}$$

Newton's second law

$$F - m \frac{dv}{dt} = 0$$

$$\frac{dv}{dt} = \frac{F}{m} = 3\text{m/s}^2$$



$$\mathcal{E} = 6\text{V}, \quad L = 2\text{H}$$

Loop rule

$$\mathcal{E} - L \frac{dI}{dt} = 0$$

$$\frac{dI}{dt} = \frac{\mathcal{E}}{L} = 3\text{A/s}$$