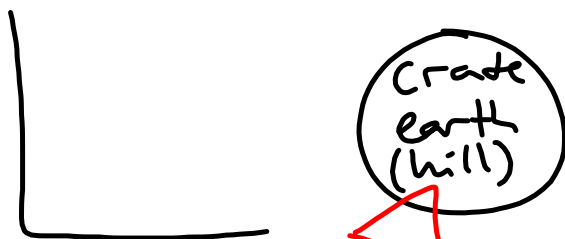


WORKSHEET 3

5b)

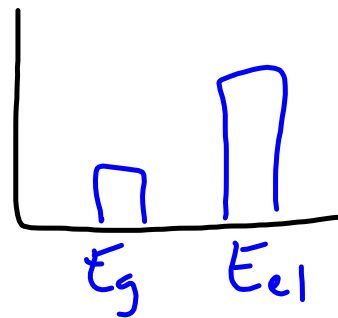


(Spring) W



$$W = E_k + E_g + E_{th}$$

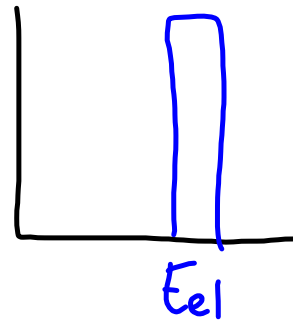
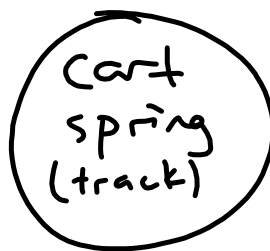
6a)



$$E_{g_i} = E_{g_f} + E_{el}$$

WORKSHEET 4

1)



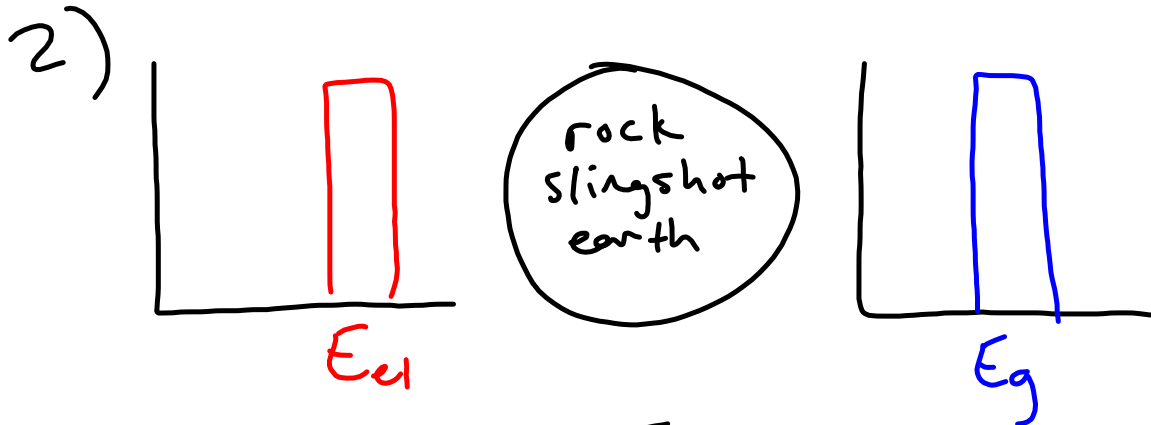
$$E_k = E_{el}$$

$$\frac{1}{2} m v^2 = \frac{1}{2} k (\Delta x)^2$$

$$\Delta x = \sqrt{\frac{m v^2}{k}}$$

$$= \sqrt{\frac{(8 \text{ kg})(5 \text{ m/s})^2}{50 \text{ N/m}}}$$

$$= 2 \text{ m}$$



$$E_{el} = E_g$$

$$\frac{1}{2} k (\Delta x)^2 = m a_g h$$

$$h = \frac{k (\Delta x)^2}{2 m a_g}$$

$$= \frac{(100 \text{ N/m}) (0.3 \text{ m})^2}{2 (0.5 \text{ kg}) (9.8 \text{ m/s}^2)}$$

$$= 0.918 \text{ m}$$