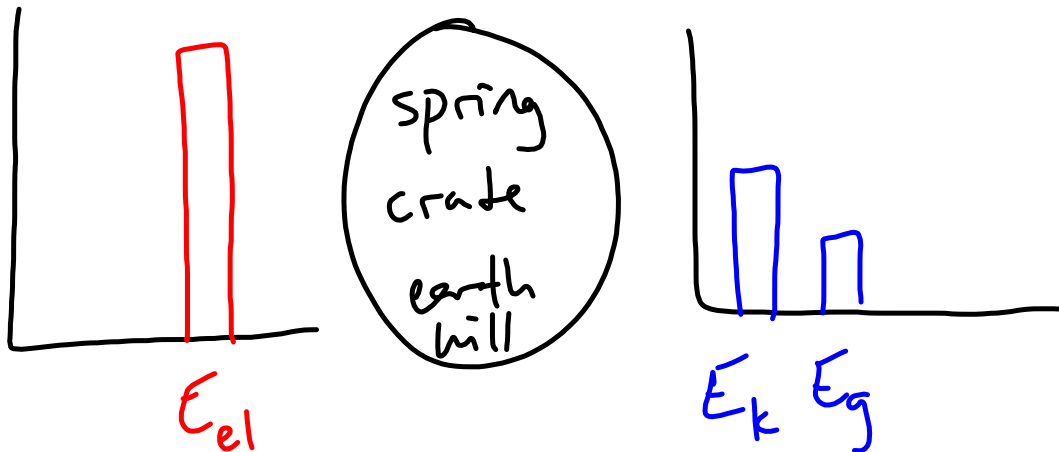


Level 4 Work

- Different grades for different quarters
(two folders in Google Drive)
- Q3 Due by Friday, 3/17
- "Ok (date)" → good
- "Try Again (date)" → redo

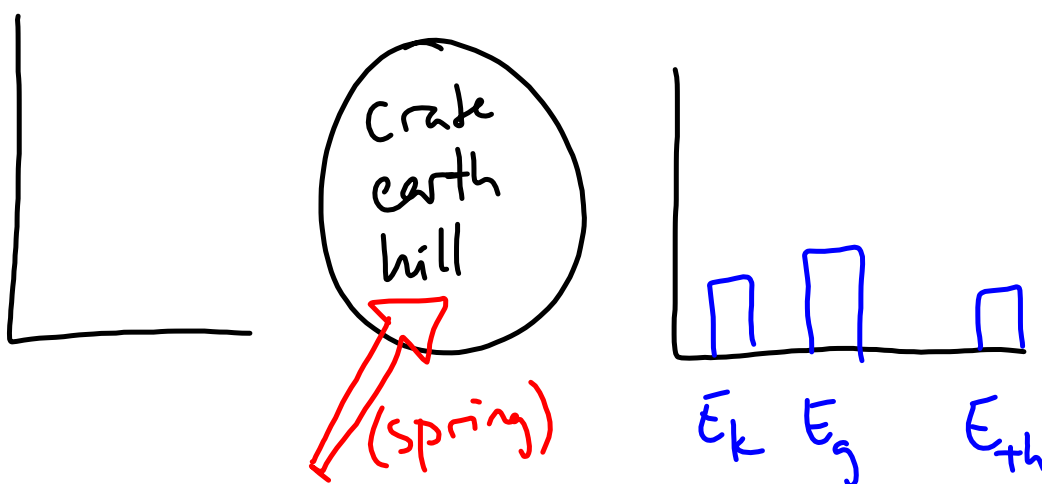
WORKSHEET 3

5a)



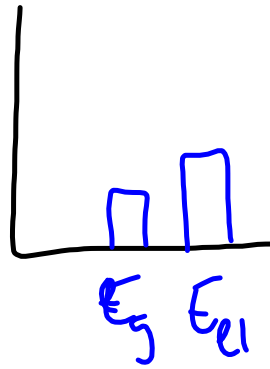
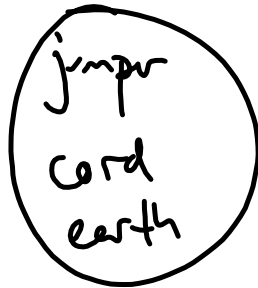
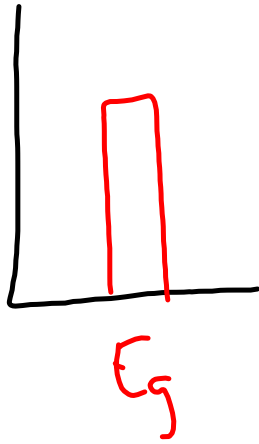
$$E_{el} = E_k + E_g$$

5b)



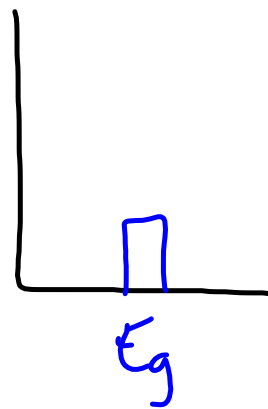
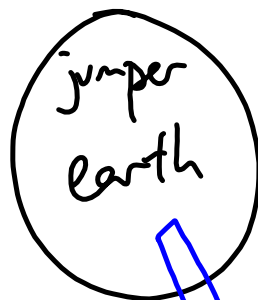
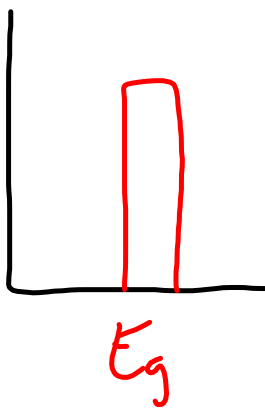
$$W = E_k + E_g + E_{th}$$

(a)



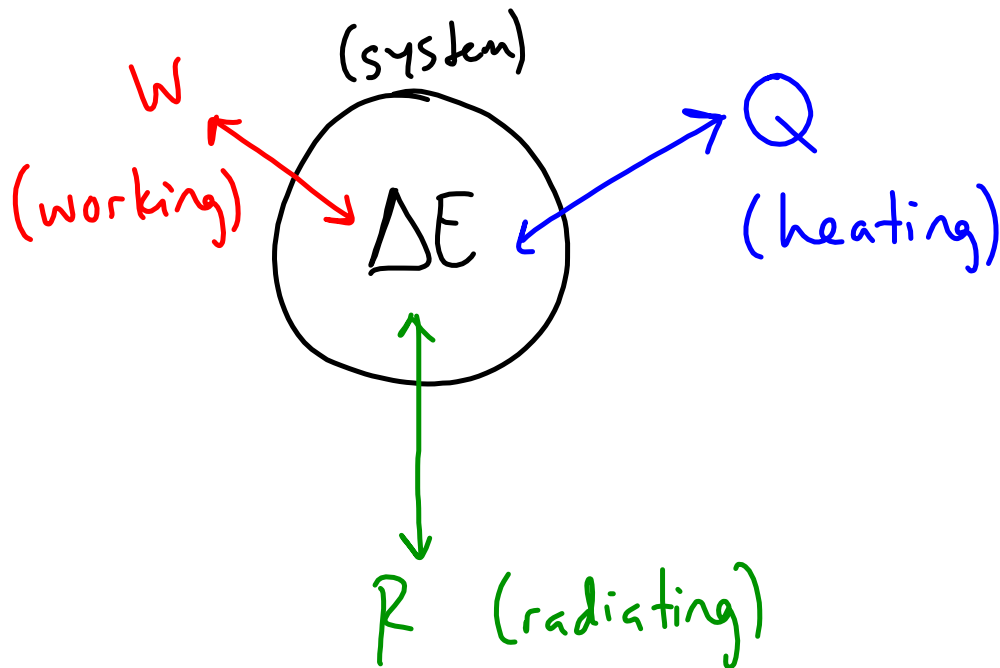
$$E_{gi} = E_{gf} + E_{el}$$

(b)



$$E_{gi} = W + E_{gf}$$

1st LAW OF THERMODYNAMICS



-
- If only conservative forces, then energy is conserved.

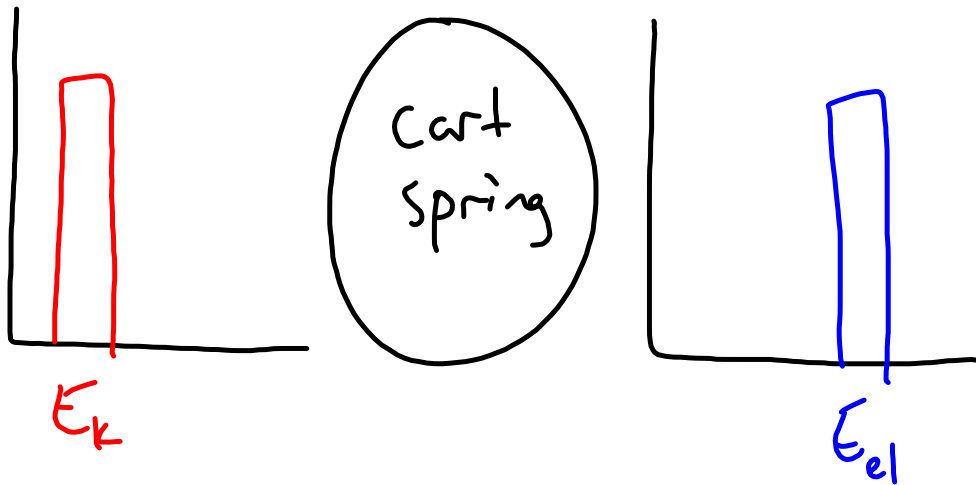
$$E_i = E_f$$

$$E_{ki} + E_{gi} + E_{eli} = E_{kf} + E_{gf} + E_{elf}$$

$$\frac{1}{2}mv_i^2 + mc_g h_i + \frac{1}{2}k(\Delta x_i)^2 = \frac{1}{2}mv_f^2 + mc_g h_f + \frac{1}{2}k(\Delta x_f)^2$$

WORKSHEET 4

1)



$$E_k = E_{el}$$

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

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

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

$$= 2 \text{ m}$$