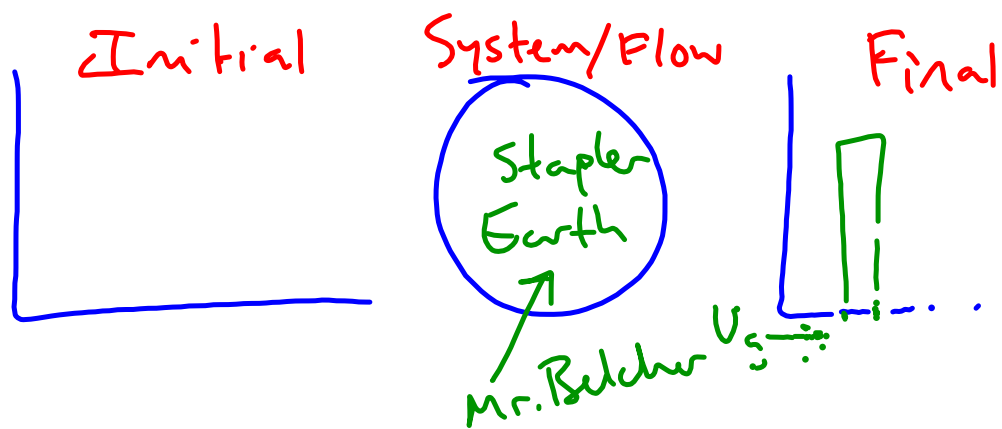


ORDER

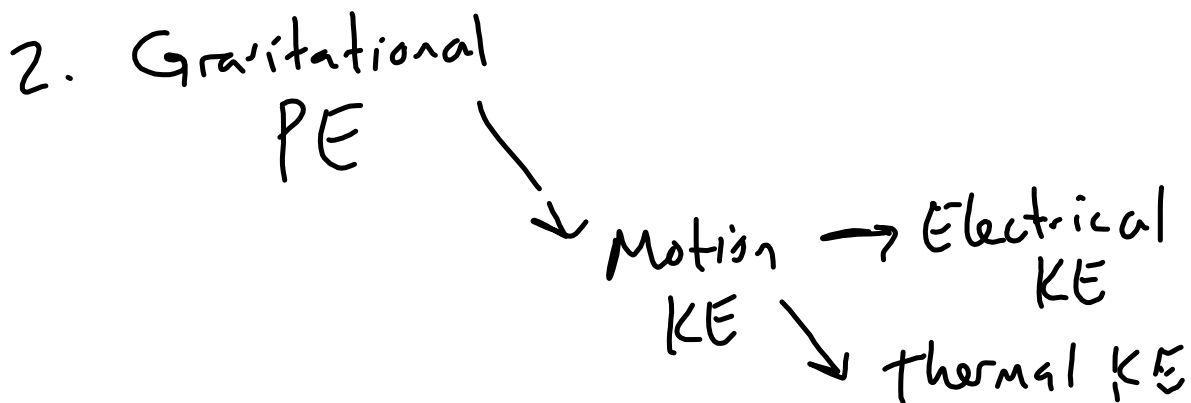
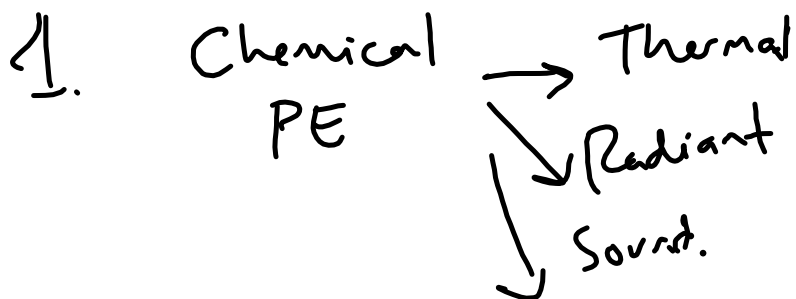
1. Level 4 Work (optional)
2. Reading 1
3. Energy Fundamentals
4. Energy Model Worksheet 3 Thursday
5. 3B.1 Level 2 #1
6. Energy Storage and Transfer Model Worksheet 4 Friday
7. 3A.1 Level 2 and 3
8. Work and Kinetic Energy Problem Set
9. Power Lab Monday



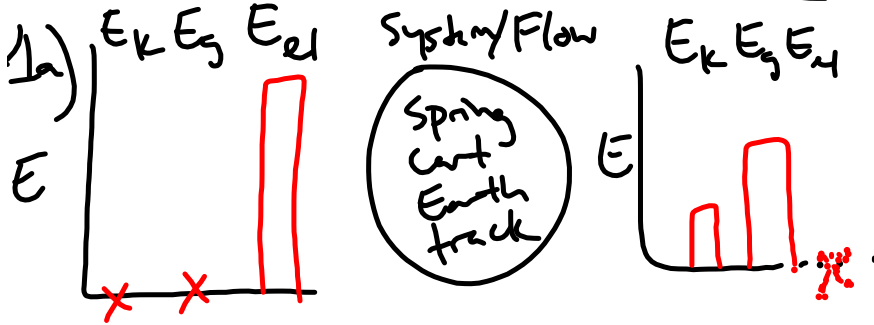
Energy Diagram

- Energy is a scalar
- +/- means ... increase or decrease in energy

Energy Transfer Diagrams



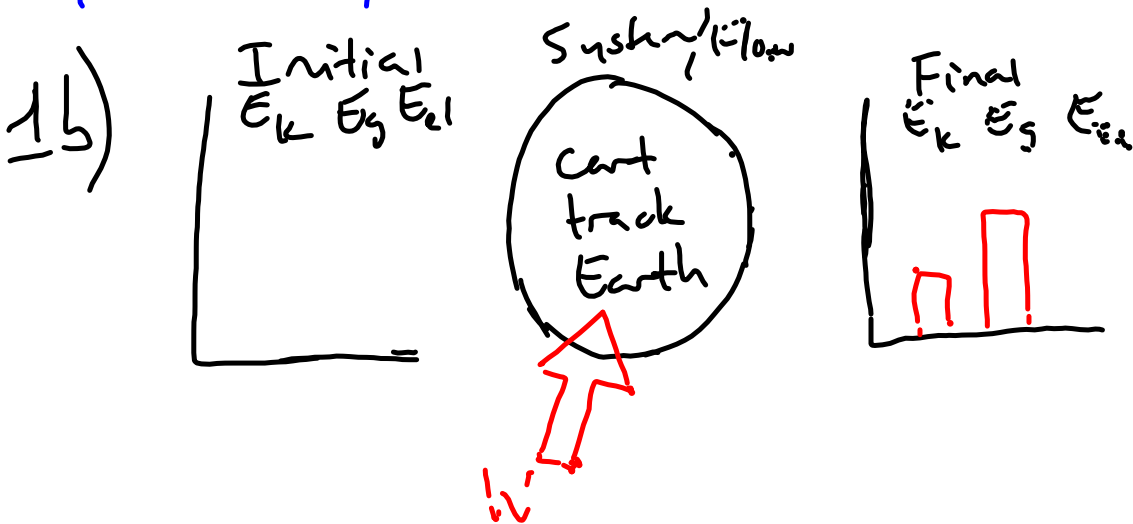
Energy Model Worksheet 3



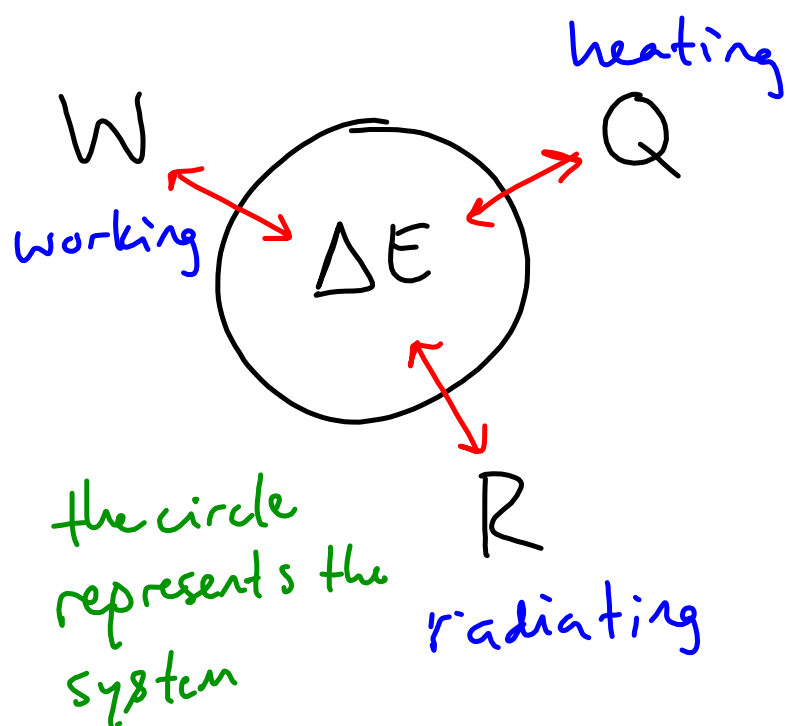
$$E_{el} = E_k + E_g$$

Energy is conserved!

if initial total energy is equal to final total energy

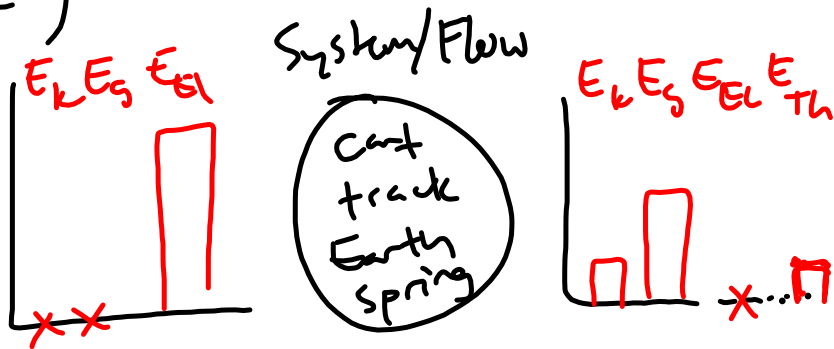


$$W = E_k + E_g$$

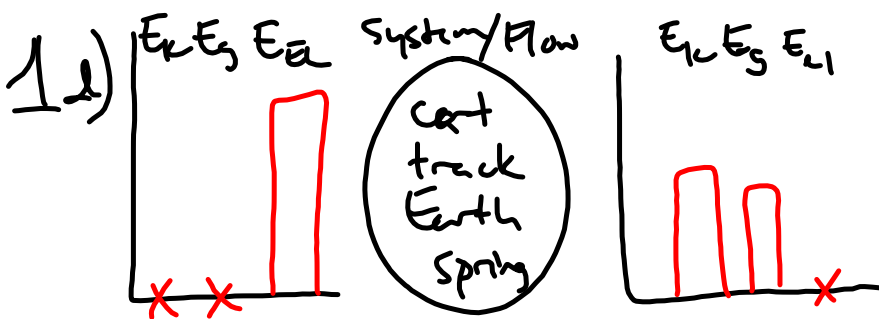


$$E_{\text{initial}} = W + E_{\text{final}}$$

1c)



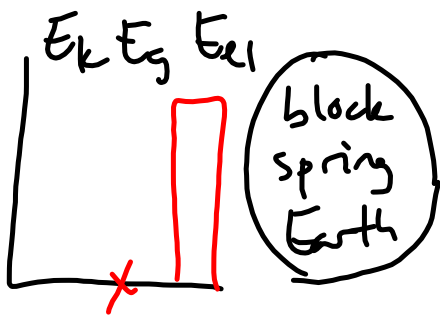
$$E_{el} = E_k + E_g + E_{th}$$



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

3B.1 Level 2 #1

Ex. 



$$E_{E1} = E_k$$



$$m = 0.25 \text{ kg}$$

$$k = 5000 \frac{\text{N}}{\text{m}}$$

$$\Delta x = 0.1 \text{ m}$$

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

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

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

$$= 14 \text{ m/s}$$