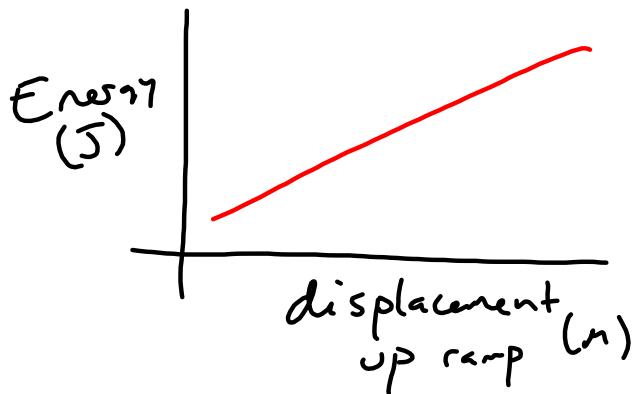


ESTM Transfer Lab 2

$$\text{slope} = \left[\frac{\text{J}}{\text{m}} \right] = \left[\frac{\text{kg} \cdot \frac{\text{m}^2}{\text{s}^2}}{\text{m}} \right]$$

$$= \left[\frac{\text{kg} \cdot \text{m}}{\text{s}^2} \right] = [\text{N}]$$

force
which one?

F_g

$$\frac{E}{h} = F_g \quad F_g = ma_g$$

$$E = ma_g h$$

this is U_g !

$$U_g = ma_g h$$

Energy Representations

• Pie Charts

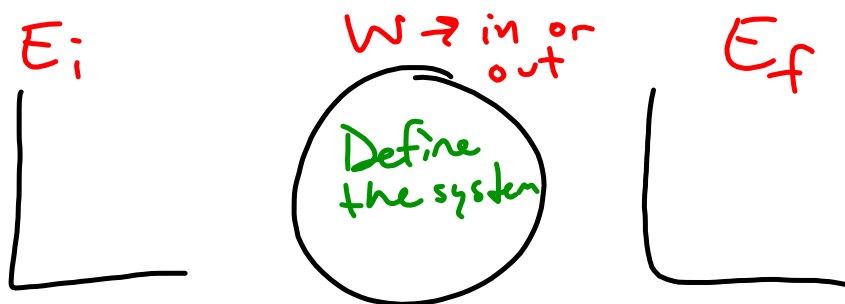
- Qualitative way to show breakdown of energy
- Larger pie = more energy
Smaller pie = less energy
- Example:



- LOL Diagrams
 - Qualitative and quantitative
 - Keep track of transfer of energy and work

- 1st Law of Thermodynamics

$$E_i + W = E_f$$



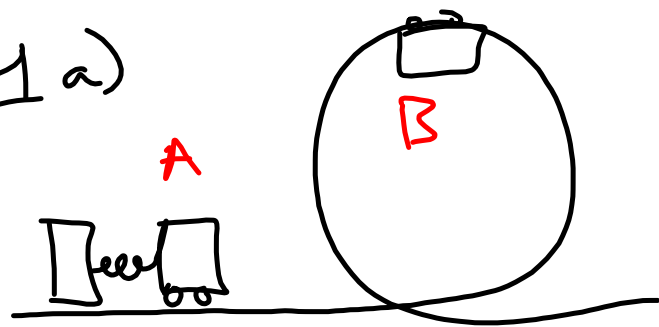
- Work

$$W = \vec{F} \cdot \vec{\Delta x}$$

↑ dot product
 way to "multiply" vectors
 to give a scalar answer

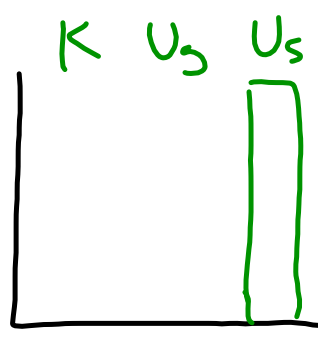
ESTM Worksheet 3

1 a)



$$h = \Delta m$$

Energy (J)



NO energy into/out of system

$$U_s = K + U_g$$

