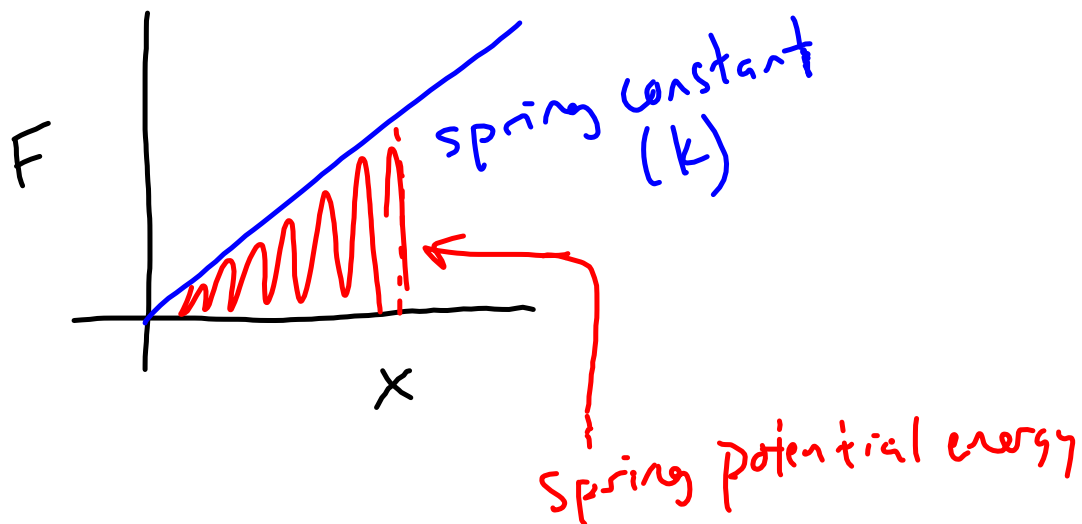


Energy

- Joules \leftrightarrow unit for energy
- Reason why things exist
- Can't create energy
- $E = mc^2$
- Plasma (?)
- Lightning
- Kinetic
- "Types" of energy

- Spring Potential Energy



$$U = \frac{1}{2} (\Delta x) F \quad F = k(\Delta x)$$

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

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

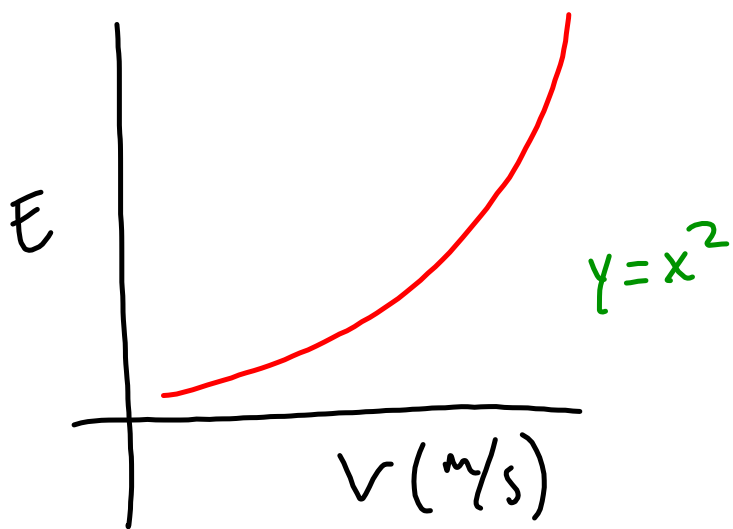
Lab → Spring Carts

- Energy from spring
→ velocity of cart

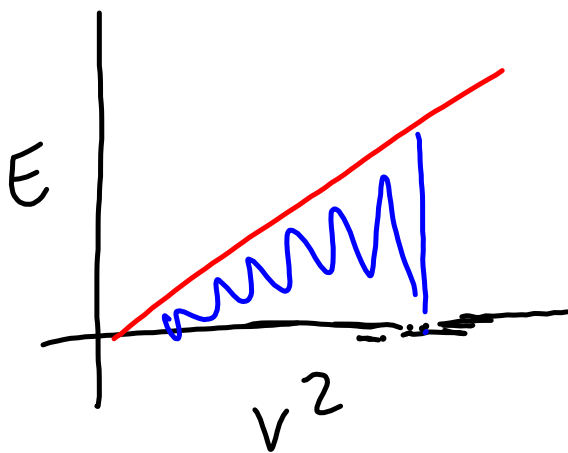
\bar{v} (x-axis)	E (y-axis)

1
2
3
4
5

① Find k
 $k = \frac{F}{\Delta x}$



- What shape? parabola



$$K = \frac{1}{2} m v^2$$

kinetic energy \uparrow \uparrow mass \leftarrow velocity