

Energy

Unit 3 Physics Essentials

What is energy?

- Ability to move an object with a force
- Ability to do work (force over a distance)
- Can exist in many different forms and at the same time!
- Scalar Quantity
- Unit: Joule (J)

Kinetic Energy

- Energy of Motion
- An object must be in motion to have kinetic energy

$$K = \frac{1}{2}mv^2$$

Potential Energy

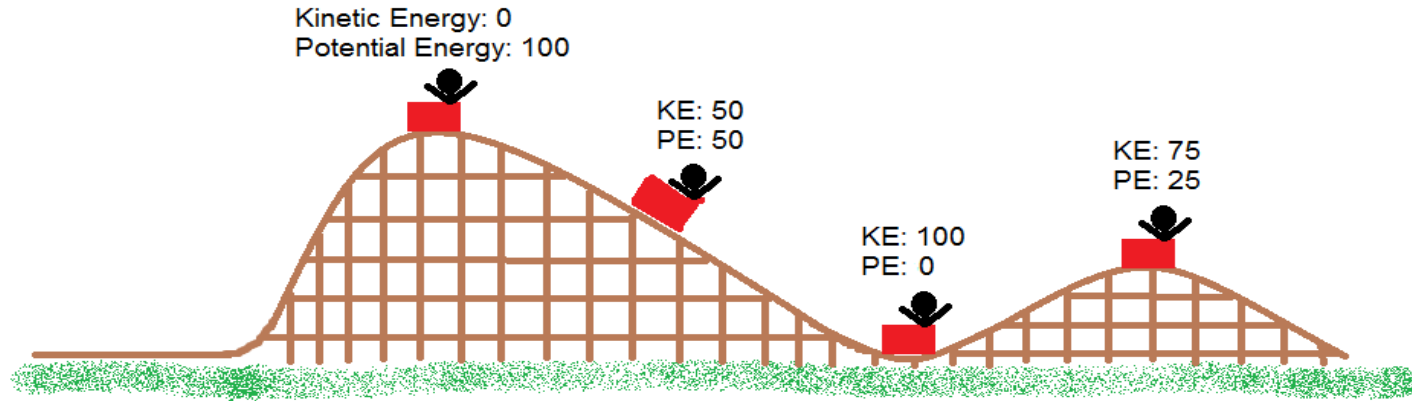
- Often called Gravitational Potential Energy
- Energy when an object has position
- “Stored” energy of position

$$P = mgh$$

Conservation of Energy

Total energy never changes- moves from one form to another

Sum of kinetic and potential energy... mechanical energy



Kinetic vs Potential Energy

- Most Potential Energy?
- Most Kinetic Energy?
- Both Potential and Kinetic?

Can I have kinetic and potential energy at the same time?

