

# KINETIC & POTENTIAL ENERGY LAB

Purpose:

- To use previous knowledge of velocity to perform kinetic energy calculations
- To practice using a triple beam balance.
- To practice making accurate measurements involving time.
- To make calculations of gravitational potential energy.
- To determine what affects GPE and KE more.

## **Part one: Potential Energy:**

*Potential Energy* is the mechanical energy of position. In other words, potential energy is how much potential something has to do work. The formula used to measure P.E. is:

$$\text{P.E.} = \text{Mass} \times \text{G} \times \text{Height}$$

Think about this and take a guess: how would the potential energy of an object be different on the moon?

Instructions: Determine the gravitational potential energy in each situation below:

Object	Mass (g)	Mass (kg)	Location	Height	P.E.
Paperback Book			On Floor		
Paperback Book			On Desk		
Paperback Book			On Top of Tallest Group Member's Head		
Agenda/Planner			On Floor		
Agenda/Planner			On Desk		
Agenda/Planner			On Top of Tallest Group Member's Head		
Beaker			On Floor		
Beaker			On Desk		
Beaker			On Top of Tallest Group Member's Head		
Matchbox Car			On Floor		
Matchbox Car			On Desk		
Matchbox Car			On Top of Tallest Group Member's Head		

The higher an object is off of the ground, the more/less (circle one) potential energy it has.

Would a matchbox car have more/less (circle one) potential energy on the moon than it does on the earth?  
Explain: