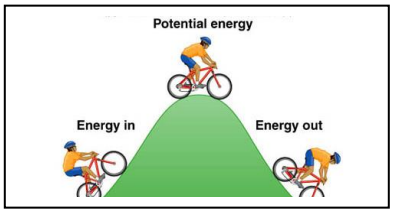
Name: _____

Single/Science

Kinetic & Potential Energy Lab Practice Test



Investigation

Problem: How does gravitational potential energy (GPE) affect kinetic energy (KE)?

Observations: Define each:

Kinetic energy—

Gravitational potential energy—

Hypothesis: If GPE increases, I think KE will _____.

Experiment: see data below…

Conclusion: I _____ my hypothesis.

Experimental Data

Gravitational Potential Energy

Formula for Gravitational Potential Energy: GPE = mass X height X g

g: gravitational constant = 9.8 m/s^2

KHD_dcm

Object mass = ___10,000_____g

Table 1

Object Mass (kg) (convert to Kg)	Gravitational Constant on Earth m/s^2	Height (m) (convert to m)	Gravitational Potential Energy (Joules)
	9.8 m/s^2	20 cm= m	J
		40 cm= m	J

		60 cm= m	J

Kinetic Energy

***Directions: drop object from various heights, clock the time it takes for it to hit the Ground, then calculate velocity (speed).**

Table 2

Height (m) Copy from Table 1	Trial 1 Time (s)	Trial 2 Time (s)	Trial 3 Time (s)	Average Time (s)
	5	6	7	
	7	9	10	
	10	11	13	

Formula for velocity: $V = \frac{\text{distance travelled}}{\text{time of travel}}$

Table 3

Height (m) Copy from table 2	Ave. Time (s) Copy from table 2	Velocity (m/s)

Formula for Kinetic energy: $KE = \frac{(m)\,(v)\,(v)}{2}$

Table 4

Height (m) Copy from Table 3	Mass (Kg) Copy from Table 1	Velocity (m/s) Copy from Table 3	Kinetic Energy $Kg.m/s^2$ (Joules)

Table 5

GPE (Joules) copy from table 1	KE (Joules) copy from table 4

Graph Your Data

What is the independent variable? _____

What is the dependent variable? _____

What is the correlation? _____