Conservation of Energy

Name:_____T.A._____

Partners:_____

Course Number:_____Section Number:_____Date:_____

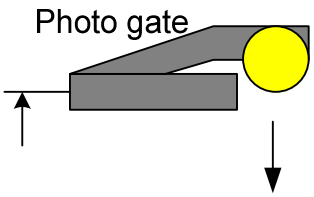
1. Conceptual Discussion (Please discuss with your lab partner.)

- **Question 1**

What are potential and kinetic energy? State those in your words qualitatively, and give the equations.

- **Question 2**

How do you interpret the conservation of energy? Can you make energy from nothing? What is conserved in this case?

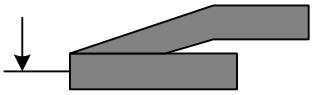


2. Experiment

- Gravitational Acceleration: g = _____(m/s^2)

h

- Mass of the object: m =_____(kg)



The initial velocity must be ZERO!!

Case #	Height, h (m)	Time between photo gates *t* (s)	Final velocity, v_f =g×t (m/s)	Potential Energy, mgh (J)	Kinetic energy, ½ m v_f^2 (J)

Conclusion and Discussion

1. Is the potential energy completely transferred into kinetic energy; in other words, is your energy conserved?

2. What factors do you think may cause the potential energy to be different from the kinetic energy?