

NAME \_\_\_\_\_

DATE \_\_\_\_\_

PHYSICS A/R -- PERIOD \_\_\_\_

MR. LEACOCK

## LABORATORY 19

### Conservation of Energy Down an Inclined Plane

**Objective**

To determine if potential energy and kinetic energy are conserved as a cart moves down an inclined plane.

**Diagram**

Draw lab set up in your lab book.

**Procedure**

1. Set an inclined plane at a 20 degree angle with a spark timer at the top of the incline.
2. Attach spark timer tape to the back of a cart.

3. Measure the height of the front wheel of the cart when the cart is at the top and at the bottom of the incline.
4. Allow the cart to roll down the ramp pulling the tape through the spark timer. Be certain to stop the cart once it reaches the bottom of the ramp. It should not be allowed to touch the table.
5. Remove the tape. Circle the top four points, the bottom four points and the four points directly in the middle of the run.
6. Complete the data table. Calculate the energy at the top of the run, the middle and the bottom of the run.

Height <small>Relative to lowest data point</small>	Speed	Mass (cart)	Kinetic Energy	Potential Energy	Total Energy	Energy Lost to Friction

**Questions**

1. Did you find that energy was conserved as the cart moved down the inclined plane? If not, where might there have been an energy loss?
  
2. Why do you think the cart must be stopped before it touches the table?

