

Name: \_\_\_\_\_

## Prelab 5: Conservation of Mechanical Energy

1. The figure in the lab instructions represents a glider of mass  $m_2$  being pulled along a low friction air track by a falling weight of mass  $m_1$ . Assuming the system starts from rest, use conservation of energy to determine the glider speed after the weight has fallen a distance  $h = h_i - h_f$ . Be sure to draw pictures defining your initial and final states.

2. Why is it necessary to measure the speed of the glider **after** the falling mass hits the Styrofoam?