

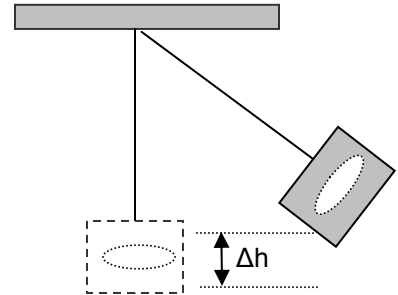
Name: _____ Lab Section: _____ Date: _____

PreLab: Ballistic Pendulum

Instructions: Prepare for this lab activity by answering the questions below. Note that this is a **PreLab**. It must be turned in at the start of the lab period. Time cannot be given in lab to perform PreLab activities. After the start of lab activities, PreLabs cannot be accepted. Explain your answers. Points will be taken off if your work is not neat and well organized.

1. (3 points) What kind of collision does conserve momentum? What kind of collision does not conserve mechanical energy?

2. (6 points) A bullet with a mass of 45 grams moving with a speed of 70 m/s slams into and wedges in a 1.4 kilogram block of wood initially at rest. The block is supported by a string as in the diagram to the right. Which one, conservation of energy or conservation of momentum, can be applied to this situation? Why?



3. (6 points) How high (Δh) does the block in problem #2 swing after being hit by the bullet?
Show your work.