

## Conservation of Momentum Collision (pendulum)

If we swing a pendulum into a golf ball, is the momentum of the pendulum before the collision the same as the combined momentum of both the pendulum and the golf ball after the collision?

We probably need a high speed video camera to calculate the velocity of the pendulum just prior to the collision, and the velocity of the pendulum and the golf ball right after the collision. Since potential energy takes away from the kinetic energy, we need to measure the velocity of the pendulum as close to the bottom of the swing as we can. It does need to move some distance for us to get a measurement of distance and time, but try to limit this so that the pendulum does not have much potential energy.