PRE-DP PHYSICS

Name: _____

Period: _____ Date: _____

DEVIL PHYSICS

BADDEST CLASS ON CAMPUS

BALLISTIC PENDULUM EXERCISE

- Measure the deflection angle of the mechanism for three trials and average them.
- Use the deflection angle to determine the height gained by the ball and pendulum.
- Use conservation of energy to determine the velocity of the ball and pendulum after the elastic collision.
- Use conservation of momentum to determine the velocity of the ball prior to the elastic collision.
- Use conservation of energy to find the spring constant of the spring.

Mass of ball (m_b/g)	7.64
Mass of the pendulum (m_p/g)	78.57
Length of pendulum arm (L/m)	0.23

Spring (x/cm)	Trial 1 θ°	Trial 2 θ°	Trial 3 θ°	Average	Velocity (v_b/ m/s)	Spring Constant (k/ N/m)
2.50						

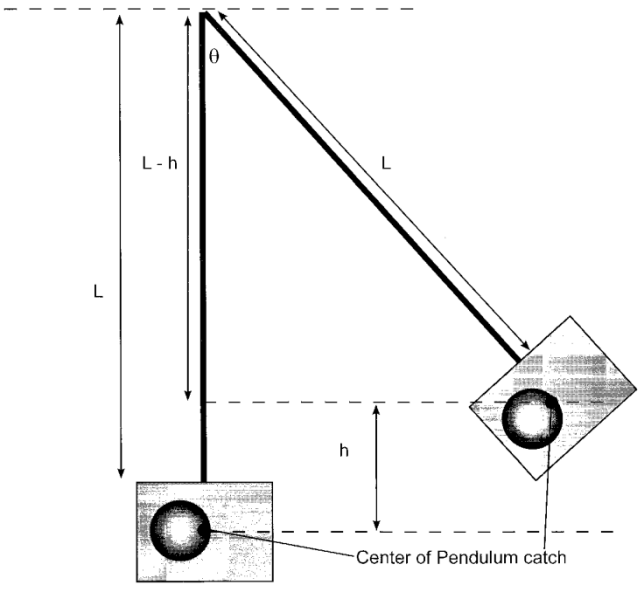

Figure S1: Height Determination