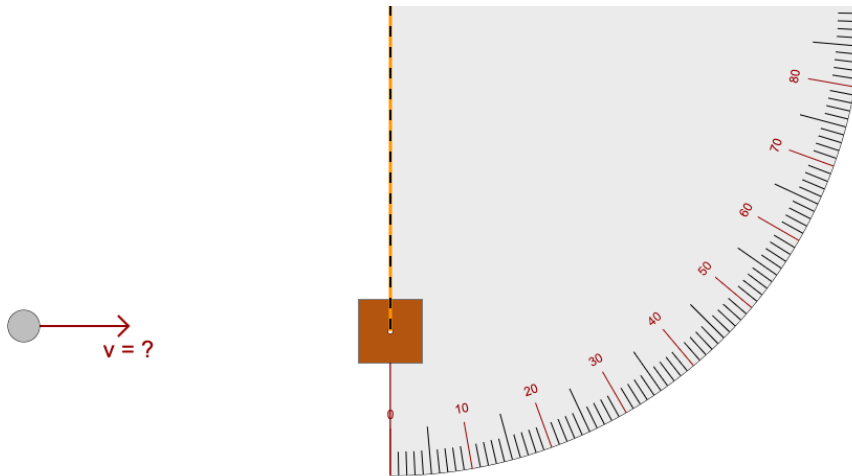


Energy/Momentum Ballistic Pendulum

Step 1: Label the ball and the block with their masses in kg. Also label the string with its length and put the value of the gravitational field somewhere in the picture. Fire the ball into the block and then draw the block swung back to its maximum angle.



Step 2: Find the change in height of the block based on the string length and the maximum displaced angle. Then find the energy of the system by finding the potential energy due to gravity when at maximum displaced angle. Show your work below.

Step 3: Use this energy to find the speed of the ball and block right after the collision. Do this by using conservation of energy.

Step 4: Analyze the collision by looking at conservation of momentum. Find the velocity of the ball right before striking the block. Show your work below and put the answers in your program to see if you did everything correctly.