

LAB1: Ball on a Ramp - Initial exercise



Goal: Find the acceleration of a ball on an inclined plane.

Method: After the introduction using Ms. Cooper's video, using an inclined plane, use your phone to make a short video where a ball rolls down the ramp under the influence of gravity only. Then upload and analyze the video using Vernier's measure the time for a ball to roll down the ramp using a timer. We will assume that the acceleration of the ball is constant (angle of incline does not change and ramp is uniform). Displacement, s , is related to time, t , by the equation:

$$s = ut + \frac{1}{2}at^2$$

Use Video analysis to plot at least 8 points in the ball's linear motion. Rotate the x-axis to represent the direction of the ball's motion. When you look at the graph of the motion, include x-direction displacement and x-velocity only for display.

Then please take a screenshot of your first video frame and submit it to the Haiku dropbox entitled "Screenshot Video". You're done!

