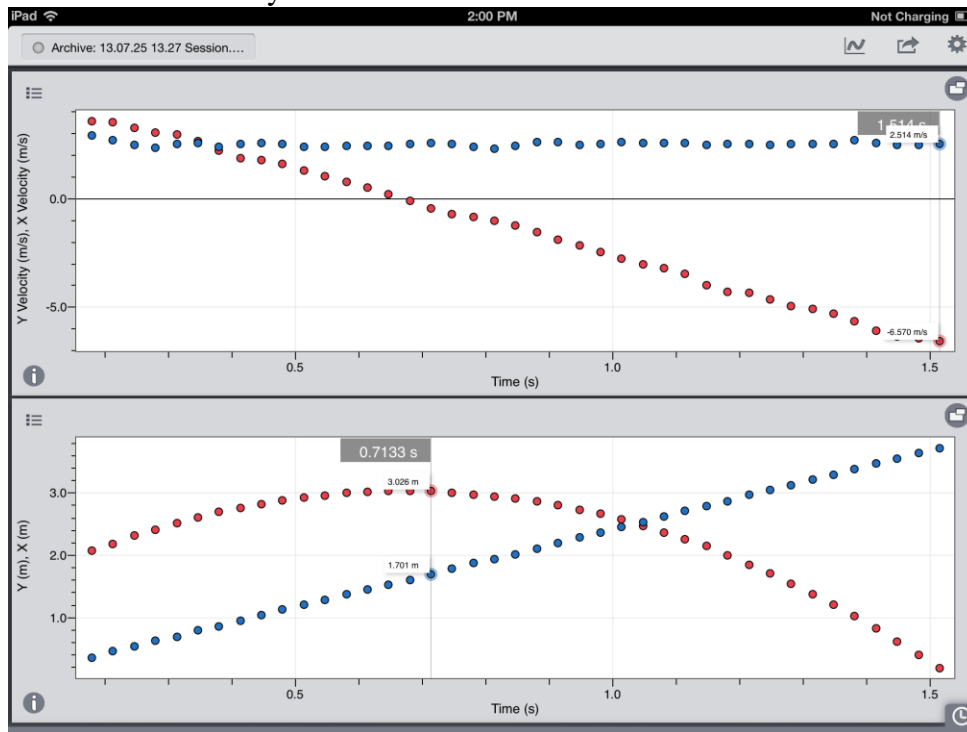


Projectile Motion Activity

This write up will include analysis an object being thrown through the air AND an object being launched horizontally.

Directions:

- 1) Film both videos. Make sure to include something in the video so that you can accurately scale your video (accuracy will be very important in this activity).
- 2) Upload your videos into Vernier Video Physics
- 3) In your navigation section, select the second icon from the left $|\leftarrow\rightarrow|$ to set the scale for your video.
- 4) Select the x/y graph icon and move the origin of your graph to the starting location of the object.
- 5) Plot the position of the object with a Δt of 0.1 second for each point.
- 6) Click on the rightmost icon of an arrow in a box and select the “Open Data In” option and then “Graphical.”
- 7) The top graph should show your v_y and v_x vs. t graphs together and your x and y vs. t graphs are together on the bottom. Make sure you know which line corresponds to the x-direction and which corresponds to the y-direction. Below, the x-direction is colored in blue and the y-direction is colored in red.



- 8) Do this for each video.
- 9) What do you notice about the velocity in the x-direction? Why do you think that is?
- 10) Compare the graphs for the y-direction to those from the vertical motion activity. What do you notice about the graphs? Why do you think that is?