

## Analyzing Motion with a Camera

1. Open LoggerPro on a computer.
2. Connect the camera to the computer using the USB cable. (Cord with white zip tie for Kodak cameras, cord with orange velcro for Casio cameras.)
3. Copy the movie from the camera to your H: drive.
4. Select “Insert” “Movie” and then import yours.
5. Make the movie window as large as possible by dragging the corners.
6. If using a Casio camera on high speed mode (210fps or higher):
  - a. Double click on the movie box
  - b. Select: “Override frame rate to:”
  - c. Type in your frame rate (210, 420, or 1000)
  - d. Select “OK”
7. Get to the point in the movie where you want to start measuring. The slider and these buttons  at the bottom of the movie window can be helpful in moving it around in the movie.
8. In the smaller “movie window” click this button:  with the red dots.
9. Click this button in the upper right: .
10. Click on a part of the object that is easy to distinguish. ***Be as accurate as possible.*** The ball will automatically advance to the next frame. Click again...  
(If you need to delete any marks, click on the arrow , choose the bad dot, and hit delete.)
11. Click on the ruler  icon on the right. Then click (and hold) on one end of the meter stick and drag the mouse to the other end. Be as accurate as possible – this sets the scale in the picture.
12. If you’re done with points, I’d click the arrow button .
13. You might want to save this periodically in your H: drive in case something happens.
14. Click on the graph behind the movie – you might have to make the movie window smaller to see the graph.
15. Now comes the part without nice written out steps.
  - a. You can change what is on the x and y axis by clicking on the axis label on the graph. (You’ll probably be leaving the x-axis as time and possibly changing the y-axis.)
  - b. You’ll have to think about how to get what you’re measuring from the possible graphs given.
  - c. Most groups will either use the  button to get the slope of a graph or the  button to get the min, max, mean,... of a graph.