Motion and Force Analysis Lab
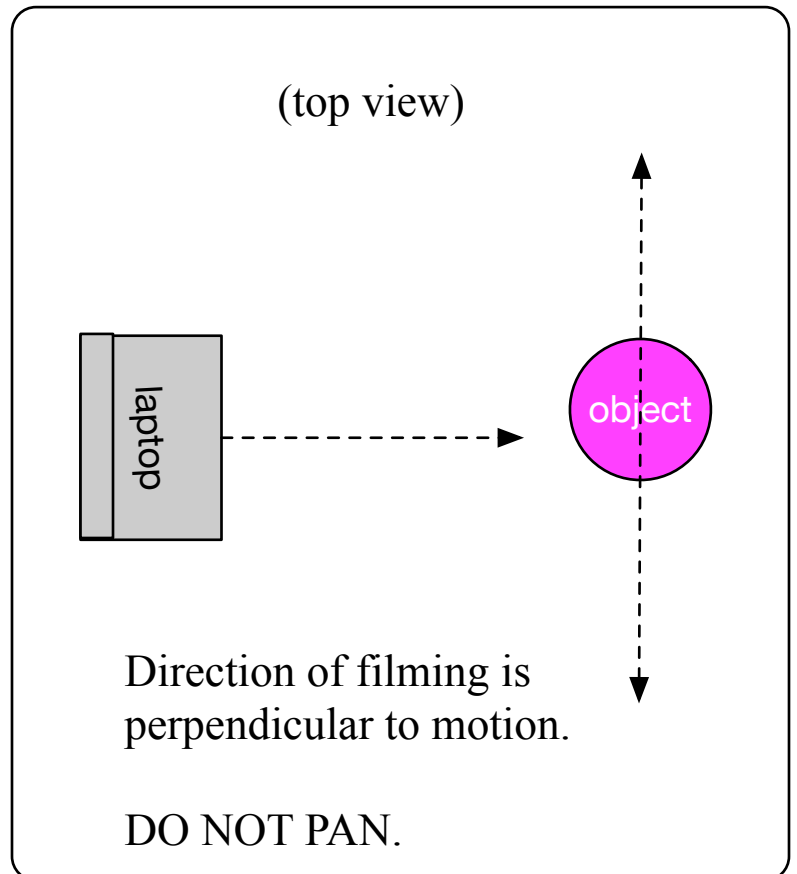
PURPOSE: To use Logger Pro to determine the motion of, and net forces on, an object.

Your video should include at least two different kinds of motion.

Use video capture in Logger Pro to film the motion of an object with your laptop and put dots on the video.

If video capture doesn't work, you can use the Insert Movie feature.

Instructions on how to do both are at mrmont.com

(top view)

laptop

object

Direction of filming is perpendicular to motion.

DO NOT PAN.

If you work with someone else - you should each shoot your own video of the situation. You can cooperate on the analysis, but each person will have their own video with the dots that they made individually.

Your data will be the dot pattern which you can screenshot out into your lab report. For the DU option, you will also need to screenshot out the motion graph with both x and y.

Your analysis will be in ABCD format. For each different kind of motion, do a separate analysis that includes:

A: Assertion about what kind of motion it is and whether it requires a net force.

C: Cite evidence about the spacing of the dots in the video (DU option can also cite evidence from the graphs.)

B: What is the general principle about dots that are spaced that way? What does the 1st Law of Motion state about net forces and that kind of motion.

D: How strong is your case? The dots might not be consistent, and you only have one line of evidence: the dot pattern. (DU option will have two lines of evidence: the dot pattern and the graph.