

The first lab report for this course can be very intimidating. The instructions for the three assigned activities (plus a few extra) can be found in the Kinematics PDF reading in Module 2. Reference the pdf for specific directions and lists of materials.

I would start by doing the following:

1. Print the Kinematics Assignment (9 pages) PDF
2. Open (do not need to print) the Kinematics PDF reading
3. Use a blank graph and create a graph of the Data table from Activity 1 (page 11 of 29)

Preparation

1. Collect materials needed for this investigation.
2. Locate and clear an area of level floor space in order to conduct the constant velocity experiment. The space should be free of obstruction and three to four meters long with a surface which will allow the vehicle to maintain traction but not impede the vehicle.

Activity 1: Graph and interpret motion data of a moving object

One way to analyze the motion of an object is to graph the position and time data. The graph of an object's motion can be interpreted and used to predict the object's position at a future time or calculate an object's position at a previous time. Table 1 represents the position of a train on a track. The train can only move in one dimension, either forward (the positive x direction) or in reverse (the negative x direction).

Time (x-axis), seconds	Position (y-axis), meters
0	0
5	20
10	40
15	50
20	55
30	60
35	70
40	70
45	70
50	55

1. Plot the data from Table 1 on a graph using the y-axis to represent the displacement from the starting position ($y = 0$) and the time coordinate on the x-axis.
2. Connect all the coordinates on the graph with straight lines.

Title: _____



Kinematic Lab: Activity 1



PHYS 103

LAB REPORT: KINEMATICS ASSIGNMENT INSTRUCTIONS

OVERVIEW

Laboratory reports are an essential component of a physics education.

INSTRUCTIONS

Download this document and record the results for each table. Activities 1-3 are to be performed for this exercise. All photos, data tables, and discussion must be submitted as a single document.

Activity 1

Submit a photo of the final graph of data table given in Activity 1 labeled with your name and the date.



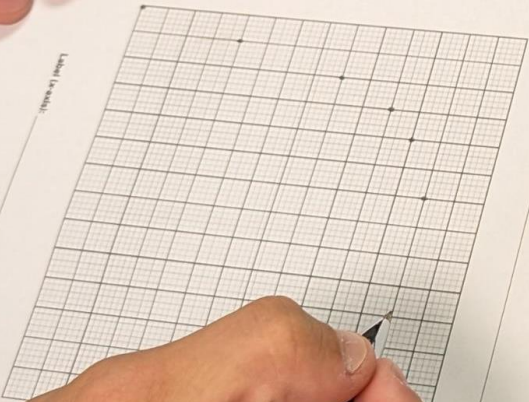
Activity 2

Record time at various positions below in Activity 2, Table 1 per the details in Activity 2 laboratory exercise instructions. Graph the points from Activity 2 Table 1 and draw a line of best fit and determine the slope of the line. Graph paper is included below or is available by printing from the laboratory exercise instructions. This is the speed of the car.

Page 1 of 9

PHYS 103

Title _____



Label (m/s^2)

Label (m/s)

Page 6 of 9

Kinematic Lab: Activity 1

Kinematic Lab: Activity 2



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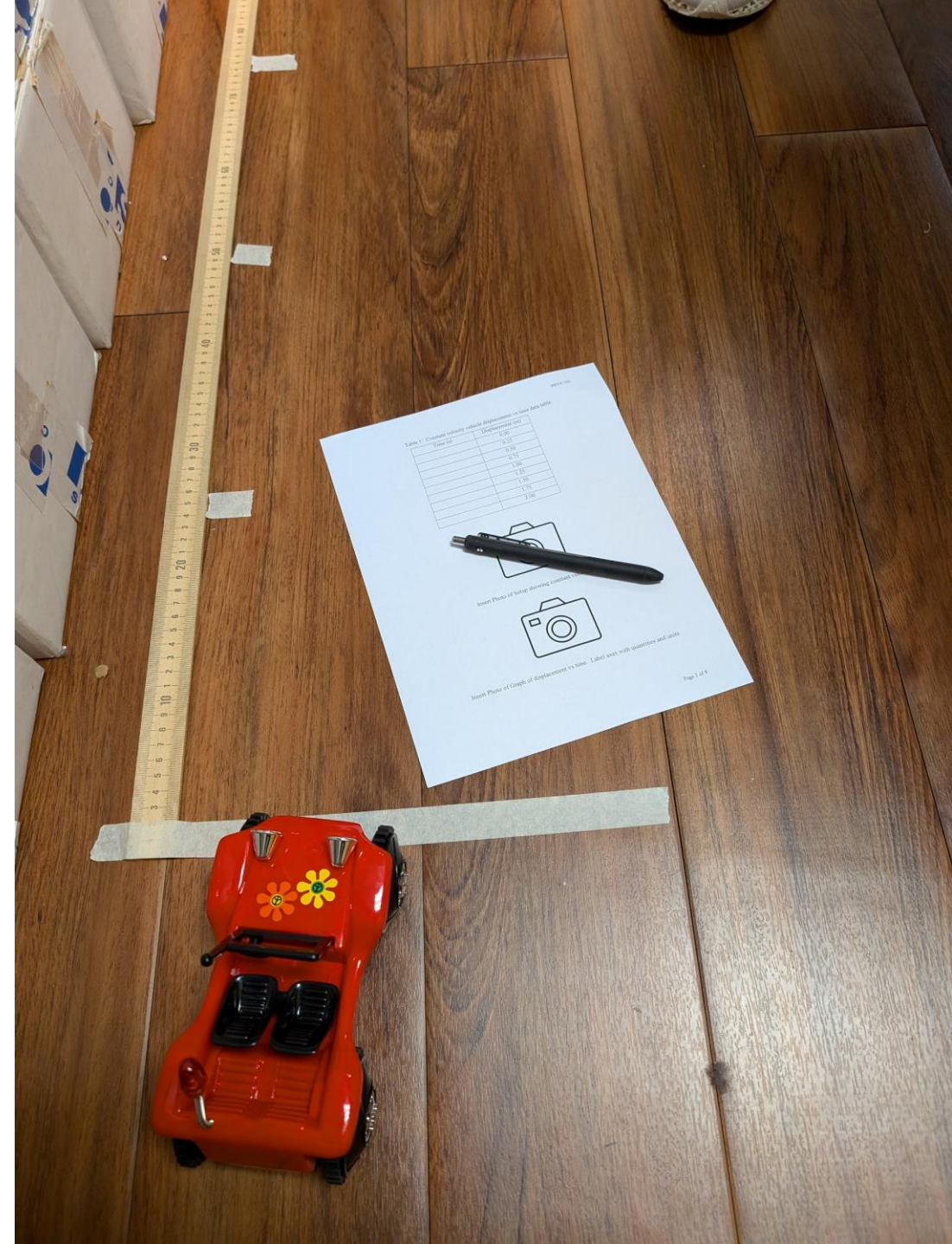


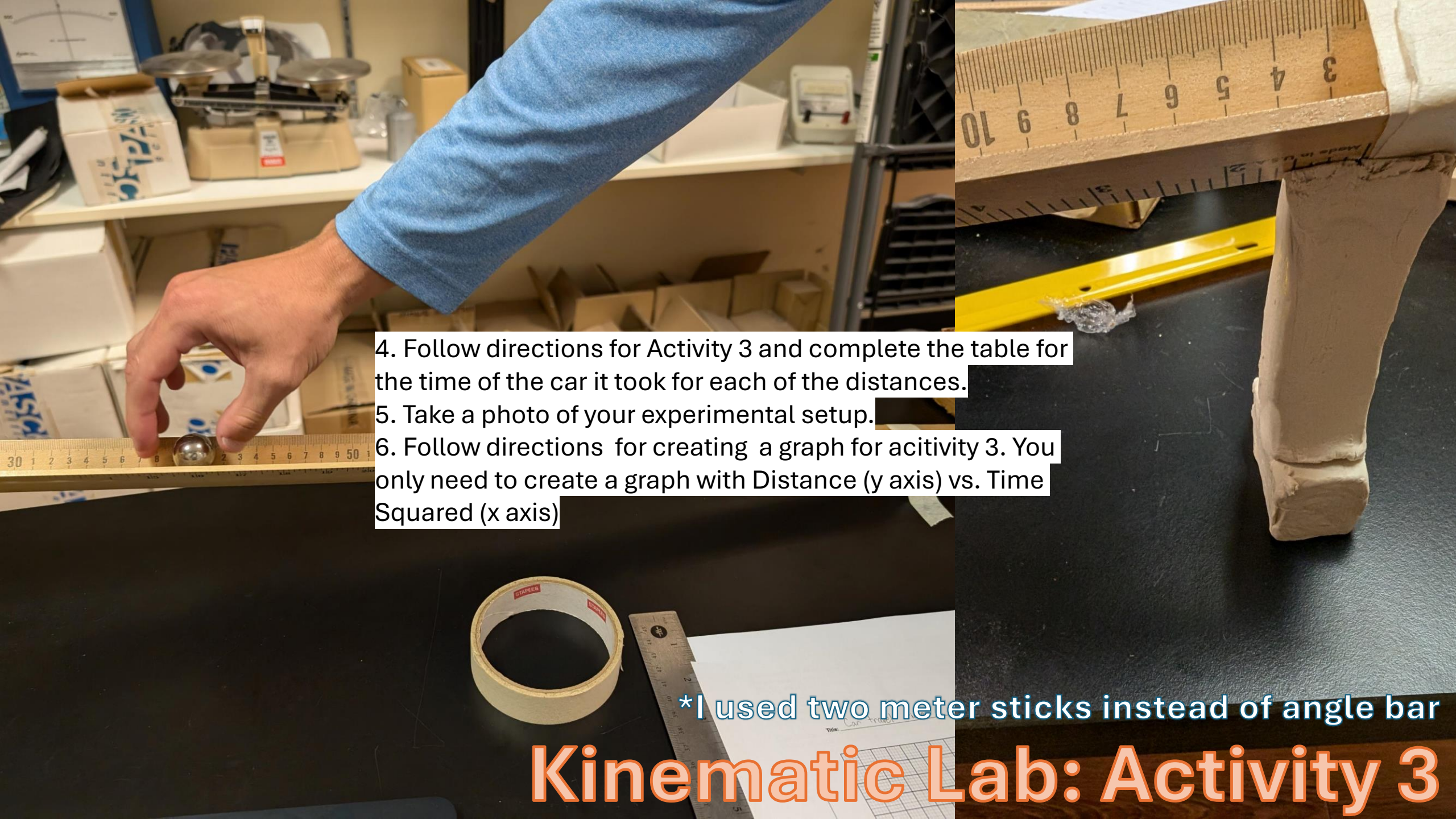
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4. Follow directions for Activity 2 (Page 12 of 29) and complete the table for the time of the car.
5. Take a photo of your experimental setup.
6. Follow directions (Page 13 of 29) for creating a graph for activity 2

Kinematic Lab: Activity 2





4. Follow directions for Activity 3 and complete the table for the time of the car it took for each of the distances.
5. Take a photo of your experimental setup.
6. Follow directions for creating a graph for activity 3. You only need to create a graph with Distance (y axis) vs. Time Squared (x axis)

*I used two meter sticks instead of angle bar

Kinematic Lab: Activity 3



*I used two meter sticks instead of angle bar

Kinematic Lab: Activity 3