

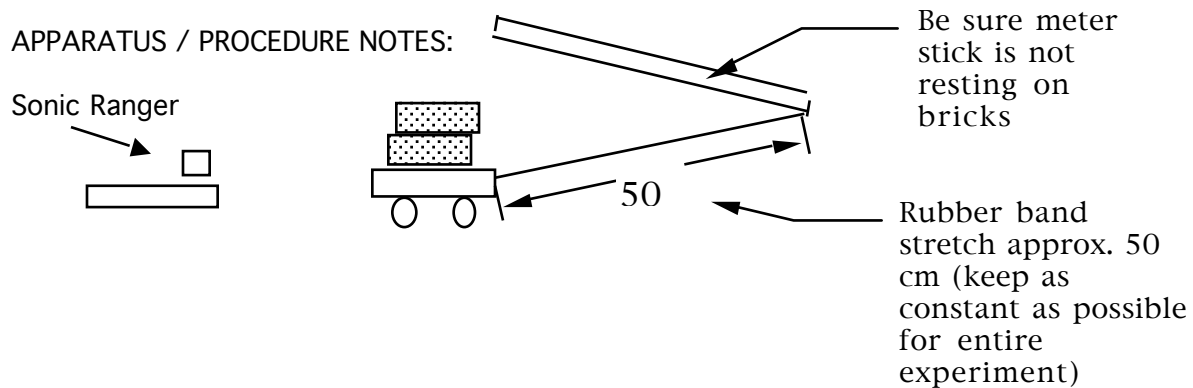
**Lab Partners:** \_\_\_\_\_; \_\_\_\_\_; \_\_\_\_\_; \_\_\_\_\_;

**PURPOSE:** To determine the relation between force and acceleration for a constant mass.

**ABSTRACT:** The abstract is a general description, complete from start to finish, including a description of the graphs and their purpose. You should strive for **five sentences maximum**; avoid insignificant detail. The Abstract will be discussed in class. You should include each of the following terms in your abstract, and underline them when you use them. The terms are listed alphabetically, not necessarily in order of use.

constant force      force-acceleration graph      record of motion      within each trial  
constant mass      from trial to trial      slopes  
directly proportional low friction      velocity-time graphs

**APPARATUS / PROCEDURE NOTES:**



**DATA & GRAPHS:**

Data tables and graphs will be done on the computer. Each lab partner will receive a copy to be attached to the lab report. See notes below, and specific instructions at computer.

**Velocity vs. Time**

- Plot ALL 3 lines on the SAME graph; see instructions at computer for entering a "new series" of data
- plot V on vertical axis in cm/tock, and t on horizontal axis in tocks; **t values are entered first on the computer**
- **DO NOT PLOT THE 0,0 POINTS**; they are not important; if the graphs do not pass through the origin, this most likely means that your initial data from the tape was obtained after the cart was already moving; this does not matter, however, since only the SLOPES are needed

**Force vs. Acceleration**

- **THIS TIME, BE SURE TO PLOT THE 0,0 POINT**; it is a valid data point, since for zero force there will definitely be zero acceleration; since you only have three other data points, you will need this one also, in order to define your graph
- plot F on vertical axis in rubber bands, and a on horizontal axis in cm/tock/tock; **a values are entered first on the computer**

**CONCLUSION:** The Conclusion should address the Purpose. It can be as short as one sentence. If the relationship is a straight line, use "directly proportional" to describe it, rather than just saying that one variable increases as the other does.

The sections shown in bold italics above should appear in a group report on **ONE TYPEWRITTEN** page. For the Data and Graphs section put "see attached," and attach data tables and graphs (one set per group). The entire report should consist of 1) ONE TYPEWRITTEN page, 2) the data and graphs from the computer, and 3) this sheet stapled on the back. Turn in one complete report per group. Attach an extra copy of the typewritten page so that each group member has a scored copy to put in their packet.