



Science 8

LAB #3: FREE FALL REACTION

Name: _____

Date: _____

Free Fall reaction Time

Lab #3

Purpose: To calculate reaction time from free fall acceleration due to gravity.

Method: Pair up with one other student to form a team. One partner holds a meter stick between the thumb and forefinger of another student who is resting his/her arm on a table. The student holding the meter stick distracts the student who will be catching the meter stick so that the catcher is not watching the stick. With no warning, the holder drops the stick with the catcher uses thumb and forefinger to catch the falling meter stick. Record the position of the catch. Repeat for a total of ten successful trials then partners switch for catcher and release partners. Record positions (cm) on the data chart below. Record the reaction time for each trial using the chart on page 300 in your textbook.

Show all work, including the distance and time data and the formula used.

Data Chart:

Trial	Position Caught (cm)	Displacement (m)	Reaction Time (s)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
Average			

The Final Report: Based on your average reaction time, how far would you travel (in meters) when riding in a car moving at a constant speed of 18 m/s (about 40 mph) while you reacted to a sudden change in traffic? (Show the formula, substitutions, units, and unit cancellations in the space below.)