

NAME \_\_\_\_\_

SECTION \_\_\_\_\_

DATE \_\_\_\_\_

### Mini Lab: *Reaction Time*

Reaction time is that time that it takes you to react to a particular situation. This delay is dependent upon many outside factors, including which part of your body is doing the reacting, e.g. it takes more time for your foot to react than your hand, if simply because your leg is heavier.

The purpose of this lab is to determine your personal reaction time by calculating the time it takes for your hand to grasp a falling object.

Rest your hand at the edge of a desk so that your fingers are over the edge, ready to grab the object, a meter stick, being dropped. Your partner will then hold the ruler so that the 0 cm marker is directly horizontal with the center of your fingers. He/She will then drop the ruler without notice, at which time you will, as quickly as possible, grab the ruler.

**The point at which you caught the ruler will then be recorded, representing how far you allowed the ruler to fall before your body was able to react. Do this at least eight or ten times, thus ensuring there is a general consistency in the distance each time (*readings that are clear outliers can be discarded*).**

It is important to make sure that the ruler is even with your fingers and that the ruler is simply released, not thrown.

**When this is completed, switch functions with your partner. Once all necessary information is recorded, average your readings and determine your reaction time from the relationship  $t = \text{SQRT}[2(d)/(g)]$ .**

**Using the information found in your experiment and previous knowledge, determine the longest reaction time possible while still ensuring that the ruler will be caught.**

Data & Calculations may recorded / completed below.

