

Name: _____

Measuring Your Reaction Time SPH4U

Procedure:

1. Have a partner suspend a ruler vertically. Place your fingers at the bottom of the ruler, the top of your fingers aligned with the zero mark, ready to pinch the ruler as it is dropped.
2. *Without warning*, your partner will drop the ruler. Pinch it as quickly as possible to stop it falling.
3. Read the measurement at the top of your fingers and record this distance in the table 1.
4. Repeat Steps 1 – 3 four more times.

Data: Table 1: The distance the ruler drops in the time it takes you to react

Trial	1	2	3	4	5
Distance (m)					

Analysis:

1. Calculate the mean and standard deviation of your drop distances:

2. Given that the ruler is starting from rest ($v_i=0$),
the time it takes the ruler to fall a distance Δd is $\Delta t = \sqrt{\frac{2\Delta d}{g}}$.

Use this equation to calculate your reaction time.
Include an estimate of the error in your measurement.