Name _____ Date _____ Per. _____

Free Fall Investigations

Reaction Time

1. Drop a meter stick for 5 trials
2. Record the distances in meters
3. Calculate Average Distance
4. Solve for Reaction Time: time = $\sqrt{2d/g}$

	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
Distance (m)					

Sample Calculation:

Average Distance = ?

Avg. distance = sum trials / # trials

Reaction Time = ?

$t = \sqrt{2d/g}$

Vertical Leap

1. Jump 5 times and record
2. Calculate for average time
3. Average Time / 2 = $t_{½}$
4. Solve for distance: $d = ½ g (t_{½})^2$
5. Solve for lift off speed: $v = g t_{½}$

	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
Time (s)					

Sample Calculation:

Average time = ?

Avg. time = sum trials / # trials

$t_{½}$ =

Distance = ?

$d = ½ g (t_{½})^2$

Lift Off Speed = ?

$v = g t_{½}$