Lab 2: Damped Oscillations, Part Two

This week is a continuation of last week's activity.

You have been asked to design a metronome for a famous pianist, and you have decided to use a spring with a small mass attached, which will bounce up and down with the beat. Now, this metronome will only be useful if the *period* (or the time it takes for one full cycle) of an oscillation stays the same over a long enough time interval (at least for a three minute tune). When you let the spring oscillate for a long period of time, you observe that the amplitude gradually gets smaller. What about the period?

Question: *What happens to the period of a spring over time?*

This week you will focus on **data analysis.** Last week you took data to decide whether or not the period stayed the same. Today you're going to *prove* whether it does or doesn't. Your goal is to develop a strong, quantitative argument proving that either (a) the period stays the same, or (b) the period changes over time.

Timetable

I. Introduction:	**10 min**	**Whole class**
II. Brainstorming and Planning Meeting:	**10 min**	**Groups of 4**
III. Carrying out the Experiment	**40 min**	**Groups of 4**
IV. Class Discussion	**30 min**	**Whole Class**
V. Evaluate and Reconsider:	**15 min**	**Groups of 4**

You will be turning in the following things in your lab report for a grade.

(From last week)

1. **Journal**
2. **Evaluation**

(From this week)

3. **Data interpretation**
4. **Evaluation**