Cover page: PH 220 **Mass and Spring Investigation**   NAME: _____

                                                                        Partners: _____

- This cover page should be the first page, with your report attached after that.
- Each person must write their own report, which must be <u>word processed</u>.
- Use the section headings: **1. Question, 2. Method, 3. Analysis, and 4. Discussion.**
- Your work will also be assessed based on critical thinking skills:
  Evidence: base your conclusions on the experimental evidence <u>you</u> found.
  Integration: combine information from different parts of the experiment logically.
  Evaluation: Draw rational conclusions based on your experiment.

Grading Rubric:

1. **Question**. State what the experiment is, using the recognized terminology. State what the variables are, and pose the experimental question that you are asking. Include a brief discussion of the hypothesis equations. Give enough detail so that someone not familiar with the experiment can understand what you are interested in finding out. This must be a clear paragraph, written in full sentences.

    _____/5pts

2. **Method**. The measurements you take are the **evidence** upon which you draw your conclusions. So, provide a brief but clear discussion of the process used to gather this evidence. Include the following, and anything else that might be relevant:
   (a) Explain what graphs you plan to make and how your approach will identify the best hypothesis.
   (b) Discuss how each measurement is made. Explain how reliable the measurements are by considering significant digits, for example.

    _____/5pts

3. **Analysis**. Present your table(s) and graphs together with explanatory discussion. Make sure the tables and graphs meet the usual quality standards of presentation (see graphing handout).
   Integrate the information you found from your tables, graphs, and calculations to form a logical sequence.

    _____/5pts

4. **Discussion**. (a) State the hypothesis equation that best matches the data, and give the quantitative value of the relevant constant. Make sure your conclusions are based on <u>this</u> experiment and the results <u>you</u> found.
   (b) **Evaluate** your results critically. Discuss weaknesses and strengths in your experiment and how you might change things in future.

    _____/5pts