Rubric for Lab Writeup Grading (0-10 point scale)

Basic Criteria for evaluation, applied where appropriate:

-Complete and thoughtful answers to all questions.
-Complete and correctly labelled tables of data and graphs.
-Units for all numbers and uncertainties for all measurements.
-Calculations indicated clearly.
-Complete schematic diagrams and sketches.
-Considered data critically. Commented on whether or not data was what was expected.
-Compared result with accepted values and discussed experimental error thoughtfully.
-Showed an understanding of all physical principles and how they applied to the experiment.

Scoring:

0 points: Didn't turn in lab writeup or completed less than half the lab.

1-2 points: Partial completion or absence of most of the relevant criteria described above. Completed lab, but demonstrated little to no understanding of the physics involved.

3-4 points: Partial completion or absence of several of the relevant criteria described above. Demonstrated only rudimentary understanding of the physics involved.

5-6 points: Partial completion or absence of 2-3 of the relevant criteria described above.

7-8 points: Completion of nearly all of the relevant criteria described above. Minor mistakes or omissions.

9-10 points: Completion of nearly all of the relevant criteria described above **plus**: Showed an interest and engagement above and beyond the scope of the handout. Examples of this are: Made connections with other classes or everyday life; performed extra measurements to understand some aspect of the experiment or physics more thoroughly; demonstrated a physicist-like understanding of sources of experimental error.

Rubric for Lab Participation Grading (0-10 point scale)

0 pts: Barely interacted with the equipment, lab partners, or instructor. Contributed little to the writeup or report.

1-4 pts: Attended and completed lab, but spent little time discussing physics with lab partners. Allowed partners to do most of the set up and reading and recording of measurements. Relied heavily on lab partners' or instructor's explanations rather than thinking critically.

5-7 pts: Participated in the setup and data collection, discussed the experiment and relevant physics to some degree. Relied too much on instructor guidance without careful reading of the handout or experimentation.

8-10 pts: Participated in the set up and execution of the lab. Discussed physics productively with lab partners and instructor. Made a strong effort to answer own questions before consulting with instructor.