Author of write-up: Period:

One checkbox is for students to use before turning in the lab report. The other checkbox is for the teacher to use for grading.

#### Title, Objective, *etc.* (4 points)

* 🞏 title included in report
* 🞏 lab partner(s) listed
* 🞏 objective stated in report
* 🞏 title & objective both adequately describe purpose of experiment

#### Experimental Design (5 points)

* 🞏 section included in report
* 🞏 table showing relationships between relevant quantities
* 🞏 describes actions & how they are caused
* 🞏 describes control, manipulated, and responding variables
* 🞏 flow chart of experiment from start to finish showing action(s) & measurements

#### Procedure (7 points)

* 🞏 section included in report
* 🞏 includes photo or sketch of set-up, *with* ***objects*** *and* ***dimensions*** *explicitly* ***labeled***
* 🞏 all significant materials & equipment explicitly mentioned (*can be listed separately and/or mentioned within steps*)
* 🞏 describes ***actions*** in sufficient detail
* 🞏 describes measurements in sufficient detail, including equipment used
* 🞏 complete (*someone following the procedure closely would achieve the same results*)
* 🞏 easy to follow & understand

#### Data & Observations (7 points)

* 🞏 section included in report
* 🞏 all measurements are included
* 🞏 measurements have appropriate precision
* 🞏 units included for ***all*** measurements
* 🞏 relevant qualitative observations included
* 🞏 uncertainty given for ***each*** measured quantity
* 🞏 data are presented effectively

#### Analysis (10 points)

* 🞏 section included in report
* 🞏 summary of experiment (actions & measurements) included
* 🞏 Discussion: *claims* are reasonable and related to objective
* 🞏 Discussion: *evidence* comes directly from measurements and calculations
* 🞏 Discussion: *reasoning* is correct and supports the claims based on the evidence
* 🞏 calculations are shown, readable and
in logical order
* 🞏 calculations are correct
* 🞏 graph is included
* 🞏 graph is complete, plotted accurately & correct
* 🞏 *sources* of uncertainty are listed & explained (minimum one source for *each* measured or observed quantity; e*xplain the* ± *assuming that the experiment went perfectly with no mistakes.*)

#### Conclusions (4 points)

* 🞏 section included in report
* 🞏 includes 1–2 sentence summary of objective, actions & measurements/observations
* 🞏 includes 1–2 sentence summary of results & discussion (including quantitative results with uncertainties)
* 🞏 suggests improvements to design/procedure
(*ways to reduce the uncertainty of each of the measurements*).

#### Format, *etc.* (4 points)

* 🞏 sections have headings & are in correct order
* 🞏 appropriate information in each section
* 🞏 no significant conceptual mistakes
* 🞏 relatively free from minor mistakes in spelling, grammar, superscript & subscript errors, *etc.*

#### Timeliness (10 points)

\_\_\_\_\_ 10 points if lab report is turned in on time. One point deducted for each school day after the due date.