

## Rubric for the Experiment Write-Up

<b>Introduction:</b> explain the physical variables to be studied and the goal	10
<b>Procedure:</b> enough description so that I could repeat your experimental method	10
Diagram(s) illustrating the procedure (hand drawings with black pen are fine)	10
Justification of procedure. Show evidence that you found ways to improve the measurement.	10
<b>Results:</b> Present data in table(s). Column titles should include units.	10
Graphs are well labeled and clearly presented. Uncertainty brackets and lines of best fit are shown in at least one graph.	10
<b>Uncertainty analysis:</b> Document the standard uncertainty and how it propagates	10
<b>Conclusion:</b> What can you conclude from your experiment? What would you recommend scientist do next to improve the experiment?	10
<b>General communication:</b> See below	20

### Notes on general communication:

- Paragraph structure and sentence structure are easy to follow.
- Algebraic variables are defined the first time they are used.
- All graphs, diagrams and tables are numbered (Fig. 1, Fig 2, Table 1 etc.). All graphs/diagrams have helpful captions. All tables have titles.
- Each graph, diagram or table must have an accompany discussion in the main text. For example

“Figure 2 shows the two lengths that were used to determine the angle  $\theta$ . The relationship between  $l_1, l_2$  is given by...”

- Equations are integrated into the text. For example

“Fractional uncertainties were added in quadrature using the rule

$$\frac{u(A)}{A} = \sqrt{\left(\frac{u(L)}{L}\right)^2 + \left(\frac{u(W)}{W}\right)^2}$$

where  $A$  is the area of the rectangle and  $L$  and  $W$  are the lengths of the two sides of the rectangle.”