

The Laboratory Report Checklist

The laboratory experiments include different types of synthesis questions. Sometimes, you are asked to collect data, graph, and analyze them. Sometimes, you are asked to write a letter to convince your friend about how physics works. When preparing the report, use the following checklist to see whether or not you have included everything correctly (when they apply.)

Purpose:

- ✓ Does the purpose clearly reflect what it has been asked to find, prove, or investigate?
- ✓ Are the variables (dependent, independent, constants) identified (if applicable)?

Materials and Apparatus:

- ✓ Are the materials included?
- ✓ Is the experimental set-up drawn?
- ✓ Is the diagram labeled?

Procedure:

- ✓ Is it clearly described how the experiment was performed?
- ✓ Are no measurements (numbers) included?
- ✓ Are no Bullet point/Numbered Lists used?

Data (Observations):

- ✓ Are the observations recorded clearly?
- ✓ Are all relevant measurements recorded?
- ✓ Are they well-organized in a data table?
- ✓ Is the table numbered?
- ✓ Does the table have a descriptive title?
- ✓ Are the units included in the column or row headings of the table?
- ✓ Are the uncertainties included in the column or row headings, or in a separate column?
- ✓ Are the significant figures considered when recording the measurements?

Analysis of Data:

- *Graphs:*
 - ✓ Was LoggerPro used to do the graph(s)?

- ✓ Are the graphs numbered?
- ✓ Does the graph have a descriptive title?
- ✓ Are the axes labeled with the correct units included?
- ✓ Is the two-column data table accompanying the graph?
- ✓ Are the best fit curve and the error bars included? (if applicable)?

▪ *Calculations:*

- ✓ Are the calculations clearly placed in their own lines?
- ✓ Was the Equation Editor or LaTeX used to write the formulas and substitute the numbers?
- ✓ Is the % difference or % error calculated? (if applicable)?
- ✓ Is the final result presented with the correct number of significant figures and units?

▪ *Discussion:*

- ✓ Have you clearly explained all relevant features of the graph?
- ✓ Are all parts of the synthesis question addressed?
- ✓ Is the plausability of the result discussed?

Conclusion:

- ✓ Does the conclusion refer back to the purpose?
- ✓ Are the results quoted with their uncertainties?