The Laboratory Report

1.Title	a concise (very short) statement of the problem; not a complete sentence.
2. Problem	Use complete sentences to state the problem as a question.
3. Research	Read literature and search the internet for information about the problem. Talk to professionals and/or use notes from your teacher.
4. Hypothesis	what you think will happen during the investigation; It differs from a guess in that it is based upon prior knowledge or evidence. Use your observations of the natural world.
5. Materials	a list of materials used
6. Procedure	Explain, with diagrams, what you did in order to collect the DATA. You should understand and be able to apply the principles involved in running a controlled experiment.
7. Quantitative Data	Evidence collected during the experiment; numbers read directly from laboratory instruments (clocks, rulers, balances, etc… not calculators). Data should be well organized and tabulated when possible. Use significant figures when taking measurements. Understand the need for carrying out multiple experiments and strive to get reproducible data. Do not hide or eliminate suspected faulty data. Present it. Later, in your conclusion, explain why you decided not to use suspected errors in your results.
8. Qualitative Data	Other forms of evidence, qualitative in nature, that maybe useful in the interpretation of Quantitative data; for example, something unexpected that happened during the carrying out of the procedure that may affect your conclusions. In qualitative experiments, which are frequently carried out, observations may be the only form of evidence collected. Then a quantitative and calculations section maybe unnecessary and conclusions will be based upon the qualitative data.
9. Calculations	Use illustrations (sample problems) to show how you converted **Data** into results. You are encouraged to use calculators and computers. Computer programs or spreadsheets used in the analysis appear in this section. Use significant figures in calculations.
10. Results	the final form in which the evidence is prepared; Graph variables to detect general trends. If possible supply equations of graphs. Understand the gain in information and usefulness when results are converted into tables, graphs, and equations. Perform calculations on the data in order to develop results. Your conclusions should be understandable by looking at your results.
11. Conclusion	answers the problem stated in the title and hypothesis; refers back to your results. Look for more than one conclusion to the problem. Suggest further work. It is not necessary to do the further work. Understand that conclusions from one experiment usually form the hypotheses to new experiments. Explain experimental errors that appear in the results. Show an awareness of the limitations of the results. In more complicated problems, or when results are ambiguous, provide a discussion section to explain the rationale behind the conclusions.