

Writing Lab Reports **Vista del Lago Science**

Lab exercises / experiments are the basis for our understanding of the key concepts in science. To ensure your understanding of these concepts and success in the science classroom, writing of a quality lab report is essential.

To be successful you should . . .

- ✓ Keep all data collected during the lab
 - ✓ Each of the following sections of the lab report should be present (when applicable) and titled appropriately:
- **Title**
 - This should be brief and is often provided by your teacher.
 - **Purpose**
 - This is a statement of the problem or question to be investigated. It provides the overall direction for the lab investigation and **must be addressed in the conclusion**.
 - **Hypothesis** (If applicable)
 - This is a statement to be tested (when independent/dependent variables/controls are present). May be written as an "If. . . then . . ." statement.
 - **Procedure**
 - This is a step by step set of instructions in your own words. You may find it helpful to make diagrams or pictures of elaborate set-ups. Someone who was not present during the lab should be able to understand how the experiment was performed by reading your procedure.
 - **Materials** (If applicable)
 - **Data**
 - This is where your observations are recorded, both qualitative and quantitative. Data/observations may include a variety of forms including:
 - Data Tables - Numerical data are recorded in a data table. Design your data table with the data (variables) in mind. A table must be drawn using a straight edge and include a title and appropriate column headings (with appropriate units).
 - Science Art – Observations may be recorded in the form of artwork. Here are the guidelines for "Science-Art":
 - Always use pencil
 - Make your drawings large (follow your teachers instructions)
 - Label your drawings completely
 - Graphs (If applicable)
 - Graphs can be very helpful to display your data (when appropriate). Graphs should always:
 - Be the appropriate type to display your data (line vs. bar, etc. . .)
 - Titled appropriately
 - Scaled appropriately (graphs should be a **full** page on graph paper)
 - Constructed using a straight edge and pencil
 - Clearly label all axis of graphs (including units)
 - Dependent variable should be on the y-axis and the independent variable on the x-axis (unless directed otherwise).
 - **Discussion**
 - Answer all questions given regarding the lab and data collected. You must answer all questions in complete sentences.
 - **Conclusion**
 - The conclusion is one of the most important parts of your lab. The conclusion is a paragraph summarizing the lab and should include the following:
 - Restate purpose (Thesis statement)
 - Evaluation of hypothesis, if applicable
 - Summary of your findings . . . make a claim about what happened (the answer to your purpose). Then back up your claim with evidence from the lab data.
 - Use correct science vocabulary to explain your results.
 - Reasonable explanations for sources of error, limitations/advantages of your model (when applicable)

Lab Conclusion Rubric
Vista del Lago Science

| <u>Value</u> | <u>Description</u> |
|---------------------|--|
| 0 | No attempt made |
| 1 | Many requirements missing Restatement of purpose not complete / Thesis missing Lab data not incorporated Lacks Explanation Missing appropriate science vocabulary |
| 2 | Some requirements missing Restatement of purpose present Lab data present Attempt of explanation, but not linked to data Some science vocabulary used |
| 3 | All required components present Restatement of purpose present Lab data present Explanation is clear with claim supported with data/evidence from the lab All appropriate science vocabulary is used |
| 4 | All aspects of "3" present AND goes above and beyond expectations (information goes beyond data/evidence from the lab) |

Grading Key

Data/Graphs:

- ✓ **U** – Units – missing
- ✓ **SF** – Significant Figures – not correct number of significant figures
- ✓ **GT** – Graph Title – missing or not appropriately titled
- ✓ **LA** – Label Axis – Axis's not labeled
- ✓ **FG** – Full Graph – graph does not take up entire page
- ✓ **GS** – Graph Scale – graph scale not appropriate or not consistent

Analysis/Conclusion:

- ✓ **CS** – Complete Sentences
- ✓ **SV** – Science Vocabulary – missing or not used appropriately
- ✓ **SD** – Support with Data – missing or not used appropriately
- ✓ **INC** – Incomplete – information/explanation not complete
- ✓ **MT** – Missing Thesis – missing or not purpose not stated appropriately