

LABORATORY FORMAT

SCHS SCIENCE DEPARTMENT

Biology, Chemistry, Physics
Marine Ecology, Anatomy & Physiology

Laboratory write-ups should be typed (or neatly written on lined, non-spiral bound paper). Clearly label each of the eight headings, exactly as shown in this format guide. Write all portions of the lab in complete sentences.

I. Title

- Write the title of the laboratory experiment at the top of the page. If acceptable to the teacher, your title may be creative and original!

II. Purpose

- State, *in your own words*, the problem or research question. Describe the problem and define any terms included in the problem statement.
- Clearly list and state the following variables:
Controlled variable: The variable that remains constant in all parts of the procedure.
Independent variable: The variable that you manipulate. The data for this variable will be placed on the “x” axis (horizontal line) of your graph. An example would be “time in minutes.”
Dependent variable: The variable for which you collect resulting data. The data for this variable will be placed on the “y” axis (vertical line) of your graph. Some examples are “substance produced,” “substance used up,” or “color change.” Be sure to identify appropriate units.

III. Hypothesis (A prediction or educated guess regarding the outcome of the lab.)

- Write your hypothesis before you begin the laboratory.
- State clearly **what** your expected data might be (i.e. “if ‘a’ is done, then ‘b’ will occur”) and **why** you expect these results.

IV. Materials

- List, in **columns**, all appropriate apparatus or materials that are needed to conduct the lab.

V. Procedure

- *In your own words* write the precise instructions to complete the lab in clear, easy to follow, **numbered steps**.

VI. Data Collection (The observed qualitative and/or quantitative results recorded during the lab.)

- Record data on a clearly organized **chart** or **table**, using correct measurement units.

VII. Data Processing and Presentation (Raw data must be processed correctly. For example, a laboratory drawing would be considered *data collection*, but the accurate labeling of the drawing would be *processing*.)

- When quantitative data is collected, it should be presented in a **graph**. Clearly show all necessary **calculations**.
- Answer specific **lab questions** in section VII. They will help you to think about what you observed and what your data might mean.

VIII. Conclusion & Evaluation (This is the MOST IMPORTANT section of the lab report.)

- Answer specific **conclusion questions** in section VIII.
- In **paragraph form**, address each of the following: (1) Formulate a valid conclusion based on the correct interpretation of the results. Include an explanation of your reasoning and compare your actual results to your original hypothesis. (2) Evaluate the procedure and subsequent results including your apparatus, materials, and methods utilized. Include an explanation of limitations, weaknesses, or errors. (3) After identifying weaknesses, state realistic suggestions to improve the investigation.