

AP/Pre-IB Biology Lab Notebook General Instructions and Guidelines

There is a specific way the labs must be written. Failure to follow the correct procedure will result in reduced credit. The lab write-up is designed to organize thoughts, give the student some background on the subject and assure the instructor that the lab has been read and written up before you participate in the lab (**as a matter of fact, the *pre-lab write-up* is your ticket into lab after the quiz**). Follow directions and be specific. Don't cut corners, a clear concise lab report takes time.

1. All labs must be **written** in black or blue ink (that does not bleed through) and be submitted to the teacher in a composition notebook.
2. Always use third person (NO personal pronouns --- me, I, you, we, they, our, etc.) when writing all parts of a lab report.
3. The following things should be written clearly in marker on the **front cover**:
"AP (or Pre-IB) Biology Lab Notebook" Student name Class Period
4. Page 1 should have "Table of Contents" written at the top and three columns:
"Lab Date" "Lab Title" "Page Number".
5. Leave page 2 & 3 blank. You will use them later in the semester.
6. After page 3, number each page of the composition notebook in *the lower right hand corner* starting with the number 1 on page 3.
7. The front and back count as separate page numbers. You may use both sides of the pages to write your labs.
8. You will begin writing the first lab on page 1 of your notebook.
9. SKIP A LINE BETWEEN EVERY SECTION!
10. TITLE and UNDERLINE each section & then begin writing on the NEXT LINE!
11. List your lab partner's names on the first line below the title.
12. All new labs begin on a new page and not on the back of an old lab.
13. If an error is made, don't erase or use Write-Out. ~~Simply draw a single line through the mistake and~~ rewrite the correct information.
14. ***Background** – This section is mandatory for every lab. This section is the place where the student gives general information about the subject. So if the lab is on microscopy, then the background will be written about microscopes, their functions and uses. This is done in one clear student developed paragraph. This information will not always be given to you. You should not rely only on the information given to you as the source of information for the background. Use your textbook and other sources supplement the information provided. Cite your sources in APA format.
 - You must also include the experimental design here: IV, DV, Control, Constants, # Trials, Etc.

15. ***Objective** – This can be the same as the purpose or question. It is in statement form, so if it is written as a question on the lab, it needs to be turned into a statement. Written word for word unless changing from a question.
16. ***Materials** – A complete listing of the specific amounts and concentrations of materials used in the lab. This list should be written in column form with spaces between the columns for ease of reading.
17. ***Procedure** – This is a summary write up of the actual steps to be followed in the lab. Although this is not a word for word write up of the steps already given to you, it should be specific enough to let the instructor know the student (and anyone else seeing the lab) understands the procedure well enough to carry out the steps. This needs to be a step by step listing of the protocol.
18. **Data/Analysis** – This section is the area where data is collected, organized, and presented. It is also the section where tables and graphs are drawn and where the lab questions are answered (incomplete sentences).
- Tables, Charts, Pictures (Cell Phone), **Labeled** graphs, Diagrams – Use when applicable
 - Qualitative and quantitative data
 - **(AP ONLY)** Be sure to do statistics whenever possible. For example: T-Test, Chi-Square Test, Error Bars
 - Under each graph, briefly describe the result (s). You do not need complete sentences. You can bullet here. Interpreting data is key in this class. You will have to do this on the AP Exam and Biology EOC. The more practice you have, the better.
19. **Conclusion** – This is the most important part of any lab report. It takes time to write correctly so don't rush. This is a restatement of the background and purpose as well as a brief recap of the procedure and answered questions. It is also the section of the lab where the ultimate learning is discussed and where problems with the lab and possible corrections to the problems are addressed. *I do not care whether or not you and your group enjoyed the lab, this is **not** what this section is for, you must write as if you were summarizing what was done, the results, their meaning, and possible sources of error.*
- This is where you give a detailed account of what happened in the experiment. Explain your observations. Your conclusion **MUST CONTAIN YOUR SUPPORTING DATA!** Discuss your analysis of the experiment and the results that you obtained.
 - Restate the purpose.
 - Did your results support your hypothesis? Were there any errors? (There are always errors!)
 - Where could you go from here? What could be a new question to address?
 - Include answers to extension questions if present.

** Sections to be completed the night before the lab are denoted with an asterisk. **



The introduction and conclusion **should never be identical** to other group members or any other students in AP Biology. These sections show your interpretation and understanding of the lab only.

Reminder: There will be pre-lab quizzes.

Some Random Thoughts about Labs (In no particular order)

The ability to construct graphs and interpret data in a timely manner is key to your success on the AP exam and Biology EOC! Thus, take these labs seriously and always do your best. **Do not copy from your lab partners as this will not help you on the AP Exam or Biology EOC.** Also, prepare for lab days! In other words, do the pre-lab ahead of time, not during class time! Class time is for experimenting. Pre-lab not only consists of the parts called Pre-lab; rather, it actually consists of most of the work you will need to do for the lab! We call it pre-lab because again, it needs to be completed before lab day. Pre-lab will take you approximately 2 hours to complete independently; thus, you will receive the labs from your teacher in advance.

Washing – I am not your parent, nor is there a “dish fairy”. I will not do your dishes for you. Soap is generally considered a contaminant and should be used in moderation. All glassware must be rinsed with water three times and then air dried. Glassware is not to be hidden in the sinks or your group will lose points.

Labels – All glassware is to be labeled. The labels need to be removed and put into the garbage... not the sink... or left on the glassware. If I have to remove labels, your group will lose points.

Orphan Equipment – If you see something lying around and nobody is using it, clean it up and put it away. Someone will do the same for you.

Multi-task and delegate during labs as much as possible. You will be more efficient and get finished with faster with less effort.

If you take too much reagent, never pour the excess back into the original bottle.

Before leaving at the bell – items should be set up, just as they were for you, for the next class period unless otherwise told to be stored correctly.



Sample Lab Format (*Yours must be hand-written in blue or black ink*)

Title of the Lab

Date

Your Partner(s)

Background

Objective

Materials

-
-
-
-
-

Procedure (For all parts of the Lab)

Part 1

- 1.
- 2.
3. Etc..

Part 2

- 1.
- 2.
3. Etc..

Data/Analysis Part 1

Questions Part 1

Data/Analysis Part 2

Questions Part 2

Conclusion (For all parts of the Lab) (Include answers to extension questions if present)

Sources: APA Format

Page Number