LABORATORY NOTEBOOK PROCEDURES

David B. Fankhauser, Ph.D.
23 August 2015
http://biology.clc.uc.edu/fankhauser/Labs/Keeping_a_Notebook/Notebook_Procedure.htm

Book: Use graph-lined, sewn composition notebooks (10” x 7 ½”) so that you make a permanent record of your experiments and results. (Avoid glued books.) Notebooks comprise about 25% of your grade.

Pen: Use a permanent black pen with a fine point, such as a Pilot Precise Rolling Ball V5 (my favorite), Tombow Roll Pen, Jr©, or Uni-ball Vision Micro. These are dark black, permanent, and xerox very well. A pencil or water soluble felt tipped pen are not acceptable, and the ink of point pens will dissolve under organic solvents.

1) Mount the LAB SCHEDULE on the inside of the front cover. (Keep page entire including header.)
2) Number the facing page "i." Mount the HANDOUT TABLE OF CONTENTS on this page. Enter the page number in your notebook where each protocol is mounted on the lines provided on this handout.
3) Number the next three pages with Roman numbers, ii, iii and iv, titled: MY TABLE OF CONTENTS I, II, and III.
4) Then number subsequent right hand pages at the top right with odd Arabic numbers: 1, 3, 5, etc.
5) Draw guide lines along the edge of your closed book at lines 1, 3 (title), 6 (cross references) and 9 (body).
6) Title every page IN CAPITALS with a specific focused title between lines 1 & 3.
7) Titles: p.1: SLIDE LIST, p 2: LAB NB PROC. Inside back cover: "MY GRADESЛИПS." (See #13.)
8) Title the back facing page: "NEW WORDSTEMS." Keep a running list of new wordstems.
9) Date every page you use in the upper left hand corner as you make entries on each page.
10) Make data entries below line 9. Enter all data directly into the lab book using a permanent black pen.
11) Use a fresh page for each experiment. Neatness is of secondary importance, but leave adequate space for ease of future use. Do not tear out any pages because its corresponding other half will fall out and be lost.
12) Cross reference pages of related material on line 6 (three spaces below the title). Be specific about the nature of each cross reference: State whether the protocol, data, graph, illustration, conclusion, etc.
13) Permanently mount ALL handouts with clear contact paper. Keep handouts intact, including header. Permanently mount sequential grade slips inside back cover. (See #7) You get one point per gradeslip.
14) Use any excuse for an illustration, since it displays information or data in a manner comprehensible at a glance. (See Notebook Illustrations explaining items 14-18). To prevent ink from bleeding through, we suggest that you place illustrations on the R page, and handouts on the L (or vice versa for lefties).
15) For dissections, illustrate: 1) cuts made, 2) spatial & functional relations of organs, label thoroughly.
16) For microscopic specimens, illustrate characteristic views to fill the page below line 9. Clearly resolve all details observed with labels for all features mentioned in the protocol and/or in Lab. The illustration title goes above, magnification of the view at the lower right. The legend is below, indicating the source, treatment and staining procedure used. Draw a second illustration to expand on or clarify the first?
17) For each new piece of apparatus: illustrate, label and explain the use of all features you used.
18) Make all your illustrations with black pen. Afterward, appropriate color may be added to the line drawing. Use of appropriate color in illustrations can make them more meaningful as well as attractive.
19) Graphs should be titled to describe the data precisely. Cross reference to the page containing the original data. Label coordinates, note significant phases or effects observed, especially according to time or changing conditions. Describe conditions under which experiment was performed, and conclusions.
20) Indent new protocols or recipes, leaving space above and below for clarity. Note in detail any changes made in the original protocol, difficulties encountered, or future cautions.
21) Draw conclusions, note the value of the exercise and its take home lessons. If appropriate, note problems encountered and make suggestions for improvement of the experiment. Include points which could be examined more closely in future experiments and/or questions which may have arisen as a result of the experiment. Offer a minimum of three quality conclusions or suggestions. Pure complaints count less...
22) Type up your conclusions on a single page, mount in your NB, and you get an additional 3 points!

Compare these instructions with the Sample Notebook Grade Sheets which you have received. Note that points are awarded according to the completeness with which you have followed these instructions. Early effort applied to learning correct notebook procedure will pay dividends when your notebook is graded.