Guidelines for Keeping a Laboratory Notebook

Purpose of Notebook
- To record methods and results of your experiments so that
  - you can go back and figure out what you did
  - another person can interpret your results
    (The lab notebook is important in patent review)
- Therefore, a notebook must be clear and thorough

Ownership
- Generally, the notebook should not leave the laboratory
- The notebook belongs to the lab and institution

Type and Format of Notebook
1. Bound vs. Loose Leaf

<table>
<thead>
<tr>
<th></th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bound</td>
<td>No lost sheets</td>
<td>No logical order</td>
</tr>
<tr>
<td></td>
<td>Proof against fraud</td>
<td></td>
</tr>
<tr>
<td>Loose Leaf</td>
<td>Group experiments</td>
<td>Sheets lost</td>
</tr>
<tr>
<td></td>
<td>Maintain order</td>
<td>Harder to prove authenticity</td>
</tr>
</tbody>
</table>

- The bound notebook is the gold standard and will be adopted in our laboratory
- What to look for in a bound notebook:
  - Bound
  - 8-1/2 x 11” (Able to attach photographs & printouts)
  - Numbered pages
  - Gridded pages

2. Ink not Pencil & Mistakes
- Ballpoint pen with black ink is best
- Pencil writing can be erased (harder to prove authenticity)
- Write legibly
- Mistakes? Cross them out with a single line. White-Out and blacking out is not acceptable.

Content of the Laboratory Notebook
1. Table of Contents
   - Title
   - Date
   - Page Number

2. Date of Experiment
3. Title of Experiment (e.g., Serial knock-down of DIAP1 by RNAi)

4. Purpose (e.g., To determine the relationship between the amount of RNA used against DIAP1 and the amount of cell death.)

5. Materials and Methods
   - Protocol
   - Written
   - Pasted
   - May refer to previous protocol in notebook (note any changes)
   - Write before you begin procedure
   - Amend as you go through the experiment
   - List any calculations

6. Observations and Results
   - Everything that happens or doesn’t happen is data.
   - Any writing that will facilitate data entry should be planned out in advance
   - Results may include:
     - Tables
     - Charts
     - Graphs
     - Printouts
     - Pictures
     - Gels
     - Films
     - Calculations

7. Discussion and Conclusion
   - Discuss results and implications of data.
   - Prepare a conclusion. How did the experiment go?
   - What to do next?

**Maintenance**
1. Record everything ASAP
2. Weekly Check-Up
3. Attach data/printout/films
4. Create tables and graphs
5. Summary for the Week
6. Record experiment in Table of Contents
7. Make plan for the following week