

Guideline on laboratory notebooks

The laboratory notebook is used for documentation of the scientific progress and should be prepared with great care. It has to be written as a “logbook” of your experiments’ progress, in which all hypotheses, experiments as well as initial analysis or interpretations are recorded. All actions, observations and measurements have to be documented, even if they are unexpected. The record takes place immediately.

The laboratory notebook is owned by the research group and the laboratory where it is recorded.

Quality:

- ✓ Hardback
- ✓ Paper of good quality
- ✓ Permanently bound pages
- ✓ Entries with permanent marker (e.g. ballpoint pen) this also applies to drawings and sketches

Structure:

- ✓ The cover of the laboratory notebook has to be labeled indicating the name of the proprietor (lab group, head of laboratory,...) name of the laboratory, if applicable test type (e.g. mouse experiments)
- ✓ The first two pages should be used for the table of contents
- ✓ all pages have to be consecutively numbered
- ✓ Every entry starts with date, time and name
- ✓ A new entry starts on a new page
- ✓ blank or unused pages or blank spaces between the records have to be crossed out

Content:

- ✓ Start with the title of the experiment and the planned experimental setup.
- ✓ Write down aims and expectations, formulate a hypothesis (hypothesis and experimental records must be distinguishable for the external reader).
- ✓ Immediately write down your lab notes, additional entries have to be designated as an addendum and should be added at the end of the record.
- ✓ Define all parameters (all device settings, filters used, serial numbers, composition of solutions, ...) as detailed as possible before starting your experiments. If feasible, add photos of the equipment and / or of the experimental set-up.
- ✓ Always write down raw data only this facilitates eventual trouble shooting, for example error in calculation) , conversion into indirect data will follow further on.

- ✓ You can use laboratory slang if it's to describe general knowledge in your field of expertise (e.g. washed two times with PBS buffer).
- ✓ Always mention variations from the experimental plan as well as alterations in the experimental set-up.
- ✓ Record even the smallest, seemingly unimportant observations (solution seems cloudy / flocculates, mouse shows injuries at the ear, ...).
- ✓ Write down spontaneous ideas, thoughts and interpretations.
- ✓ Note all presumed outliers, it is not allowed to "sweep something under the carpet".
- ✓ It's forbidden to erase data unrecognizable, eventual mistakes have to be crossed out with a single horizontal line. The correct value has to be filled in right below and the reason for the correction must be transparent - if possible, add a comment.
- ✓ Add images or computer-generated direct hard copies directly into the lab notebook. Do not review and/or edit any data entered into the notebook.
- ✓ To maintain comprehensibility of the experimental approach all raw data has to be preserved.
- ✓ You don't have to draft whole sentences, but pay attention to completeness and clarity

Source Materials:

<https://de.wikipedia.org/wiki/Laborjournal> (29.07.2016, 12:00)

https://www.uni-oldenburg.de/fileadmin/user_upload/studium/download/lernwerkstatt/MaterialienArbeitsblaetter/Textsorten/Laborbuch.pdf (29.07.2016, 12:03)

http://www.uni-kassel.de/einrichtungen/fileadmin/datas/einrichtungen/sci/Fachbezogene_Hochschuldidaktik/140220_MerkblattLaborbuch.pdf (29.07.2016, 12:07)

<https://www.uni-due.de/~lge292/trainer/trainer/seiten/s48.html> (29.07.2016, 12:10)

<http://tu-freiberg.de/fakult2/aoch/agsi/das-laborjournal> (29.07.2016, 12:11)

<https://www.tub.tuhh.de/wissenschaftliches-arbeiten/tag/laborjournal/> (29.07.2016, 12:14)