

4.4: TAKING NOTES AND USING THE NOTEBOOK

One of your key tools in the lab, is your notebook. This is equally true of real research situations, where a scientist takes careful notes during an experiment. The point of the notebook is to collect data on your procedure, as well as observations you make. In theory, you can fill the entirety of a notebook in only one experiment, if you uncritically write down anything that you can think of. The key to using the notebook is therefore to collect not only data, but relevant data. This data will be imperative for you when you compile your laboratory report later.

The distinction between irrelevant- and relevant data can be challenging, but we will cover some situations here. The most important aspect to remember, is that relevant data provides proof and indication of the success and outcome of an experiment.

1. **Numbers and units.** Masses and/or volumes of starting materials, catalyst solutions and reaction solvents are always important. They will deviate slightly from the quantities given in the procedure, and you should record what you actually use because you will also use these numbers later. Many other numbers are unimportant. The amount of drying agent (you add enough), the amount of water in your water bath (you add enough), the setting on your hot plate, the size of the Erlenmeyer flask you collected your organic extract in, and the size of the filter paper are not important.
2. **Logic.** When you are asked to write a procedure as part of your lab report, you must provide a text describing what you did. The procedure in your report must match the information in your notebook; you should never draw on the lab instructions to fill in missing gaps. That said, many essential steps are unnecessary to note. For example, if you filter a solution using a Buchner apparatus, it is not necessary to make note of the fact that you clamped the neck of the filter flask, and wet the filter paper before you turned the water aspirator on. These are standard steps that are automatically included in “the solution was filtered using Buchner filtration” is sufficient.
3. **Observations.** This is in many ways a very difficult category, because you can make an infinite amount of observations over the span of an experiment, but many of them are secondary or irrelevant. For example, a reaction mixture might change color from clear to yellow, and finally to brown. That may or may not be important, depending on the specific experiment. Some color changes indicate the formation of key intermediates and provide useful guides to an expert reader. Other color changes may not be so readily interpreted, but may still be useful because they serve as landmarks of the chemical changes that are occurring. Always pay attention to your experiment, as small subtle changes can be important.

This page titled [4.4: TAKING NOTES AND USING THE NOTEBOOK](#) is shared under a [CC BY-NC 4.0](#) license and was authored, remixed, and/or curated by [Alexander Sandtorv \(PDX Open publishing initiative\)](#) via [source content](#) that was edited to the style and standards of the LibreTexts platform.