

How to write a protocol

In science we typically use **EXPERIMENTS** to answer a question. It is important to describe such an experiment in detail. That way, it is easy to repeat it in the same way to check that everything went right or to find mistakes later (if things went wrong).

That is why we write a **protocol**. The following seven steps will help you to write a good protocol:

1. **Headline/Question**

Write down what the experiment is about or what question you want to answer.



2. **Hypothesis**

You might have an idea what the answer could be. This is only an assumption¹. If your assumption ...

- is reasonable,
 - agrees with known facts AND
 - can be tested (e.g., with an experiment)
- it is called a *hypothesis*.



3. **Materials**

Write down all the materials that you need for the experiment.



4. **Substances**

Write down the chemicals or other substances² you use for the experiment. How much do you use? Write down the exact amount³.



5. **Procedure**

How exactly do you do the experiment? Write down a short step-by-step description.



6. **Observations**

What do you observe? That means: What do you see, hear, smell, measure, ... at the beginning, during the experiment, and at the end of it.



7. **Conclusions**

What do the observations tell you about your hypothesis? What can you conclude⁴ from the observations?



¹ *assumption* - Vermutung

² *substance* - Stoff, Substanz

³ *amount* - Menge

⁴ *to conclude s/th.* - etw. schließen, schlussfolgern