

HOW TO DO A PRACTICAL WRITE-UP

Scientists follow certain conventions or 'rules' when they present their data, graphs and reports. This is so that other scientists know exactly what was observed and how the information was interpreted. It also allows them to repeat the experiment if necessary. Investigations that can be repeated and which produce very similar results are said to be scientifically reliable.

To do your practical write-up in a scientific manner, you should follow these conventions too!

When you do a prac write-up you need to include the following:

1. **An Aim / Investigative question:**

- You need to state what you intend to do or find out.
- If the prac write-up asks for an AIM, then you need to use words such as "To SHOW...; To DETERMINE...; To SEE...; To DEMONSTRATE...; To PROVE...", etc.
Eg. Aim = To prove that plants need sunlight in order to photosynthesize.
- If the prac write-up asks for an INVESTIGATIVE QUESTION, then you need to phrase your aim as a question. The question must be such that the answer can not be 'Yes' or 'No'. Usually the investigation is about establishing or finding relationships between variables.
Eg. Investigative question = What is the relationship between the amount of sunlight and extent of photosynthesis?

2. **A hypothesis**

- This is a testable proposition. It is a prediction or idea of what you think might be true, based on general observations.
- A hypothesis must be a statement (NOT a question!) that can be investigated and then accepted or rejected based on the results of the investigation.
- Eg. Sunlight is needed in order for plants to photosynthesize.

3. **Method and Materials:**

- This is a description of the steps that you followed in order to carry out the experiment, plus all the equipment / apparatus / chemicals that you used. Also describe the quantities measured and the units used.
- Use point form/bulleted list
- use reported speech (i.e. past tense) when writing up a prac, and DO NOT use personal pronouns (words like "I", "we", "they", "she", "he", etc.).

Eg.

- I poured water into the beaker. ✗
- Water was poured into a beaker. ✓
- A labeled diagram can be useful to help clarify the description of the method (use only when applicable!)

4. Results:

- Describe any observations that were made, i.e. what was seen, smelt, heard, felt, measured, etc.
(This will depend on the type of experiment that was conducted).
- All measurements / readings / data collected from the experiment must be shown in a table
- If applicable, the readings can also be displayed as a graph
- Any calculations that are needed for the experiment must also be shown.

5. Conclusion and Discussion:

- The conclusion must be a brief summary of what was found out in the experiment. It must be short and must relate to the aim. Also state whether your hypothesis can be accepted or rejected.

Eg. The experiment clearly showed that sunlight is indeed necessary in order for plants to photosynthesize, thus the hypothesis can be accepted.

- For your discussion, analyse your results and discuss what you think your results show.
- Mention any possible errors that could have occurred or problems that were encountered, and provide corrections or suggest improvements.