

Writing a Laboratory Report for MYP Science

The format below should always be followed when writing a full laboratory report. All rough raw data should be handed in attached to the lab report.

Title

The title should be general, explaining what the experiment is about.

Aim

The aim should be a question stating what you are trying to find out.

Hypothesis

State what you expect to find out in your experiment and **why** using **scientific reasoning**. That is, what you expect the answer to the question of the aim to be and why.

Variables and Fair Testing

The variables are the things you measure in the investigation. List them under the following headings:

Control Variables: These are the ones that must be the same in each experiment.

Independent Variable: This is the **one** variable that you deliberately change in the experiment. There should only be one!

Dependent Variable: This is the **one** variable you measure to find your results.

Fair Test: Write a sentence or two explaining why your experiment is a fair test.

Materials/Apparatus

List all the apparatus and materials used. Include a relevant diagram at this point.

Method

Write instructions explaining how to do the experiment. They must be detailed enough for **somebody else to follow** so they can do the experiment. Point form is suitable. Explain how to control the variables.

Results

Using tables, record what happened, including measurements and observations (also anything you heard, saw, smelled if applicable). Tables must be clearly presented and easy to read with titles and units.

The data from the tables should be analysed and presented as a suitable graph(s) if possible. Graphs should be generated using Excel or some other computer graphing program. Include a title, labelled axes and units. The independent variable should be on the horizontal axis.

Include any calculations. The graph(s) should be **analyzed and explained using scientific reasoning**. Examples of analysis include: finding and interpreting the meaning of the gradient (slope) and/or intercepts, interpreting the shape of the graph(s), finding the equation(s) of the line of best fit (trendline), comparing graphs to one another or to the control, etc.

Conclusion

This section explains what you found out from your investigation. You should:

- Read the question of the aim again and try answering it by looking at the results.
- Write down why you know your hypothesis was correct/incorrect.
- Explain any unexpected results.
- Comment on the reliability/validity of the data given the strength of correlation supported by your data, and sources of error.
- Write down some ways you could improve your experiment. This should be **changes to the method**, not comments like "I should have done my calculations more neatly."
- Think of any further things you would like to investigate.