**IB Foundation Years (9 & 10) Lab Report**

**1) Writing a fully focused research question**

o Must include the range of the independent variable with units

o Must include the dependent variable

o Method of measuring the dependent variable

what is the effect of ---------------------(IV ) what range will you be uisng --------------------- on the -----DV---------------------------measured by -------------------------(write the method and the units)---------------------------?

1. **Scientific background** 
   * Research your independent variable
   * Research its effect on your dependent variable
   * Research the method of measuring the dependent variable
   * Include citation
2. **Hypothesis:** Outline a hypothesis to predict the outcome of the experiment and

explain it using logical scientific *reasoning (what do you think is going to happen*

If the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(State the IV) (increase, decrease, or change)

then the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(State the DV) (increase, decrease, stay the same, or change)

**Scientific explanation for hypothesis (**This is the explanation to the previous hypothesis. Why do you think that your hypothesis is correct? Explain it in detail with reasons and causes. You may also find research at this point if allowed).

Because:

1. **Manipulating the variables:**

**What is your independent variable ?**

* What are the units ?
* How will it be changed stating the instruments that you will be using
* Will you be doing a control experiment ?
* Why did you choose this range ?

**Discuss your dependent variable [ the method of measurements + units+ time frame]**

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| --- | --- | --- |
| **Controlled Variable** | **How will you keep this controlled? Stating the values and the equipment that you will be using** | **How could it affect your results if not controlled?** |
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|  |  |  |

1. **Materials and Method**:

State your materials [ number needed + units] (Be descriptive, example: 10cm3 graduated cylinder) include the uncertainties for each piece of apparatus

**Method : What are the steps of the investigation?**

o State step by step your method [ must be clear and easy to follow]

o **Draw and annotate a diagram or add an annotated photo in the space (** This annotated (labeled) diagram of your equipment set up.

o State the number of trials per increment of the independent variable

1. **Safety, Ethical and Environmental issues**
2. **Results**

**Add a table for qualitative results e.g. Variation within the organism/biological material being are dealt with; Color, texture, shape, size, heat changes; Anything you notice that might affect results.**

**Raw Data**

* Construct a table to add your raw data , add a fully detailed title to your table .
* Label your table ( table 1, table 2…)
* Add suitable headings with units and uncertainties to your table.
* Unify your decimal points

|  |  |
| --- | --- |
|  | **Processed data**   * Justify the reason for data processing * Add screenshots from excel to provide evidence for your work, or provide a sample calculation * Construct a table to add your results * Add a title for your table and label it * Unify your decimal points |