Lab Title
(should use 3 keywords that relate to your experiment, usually will answer the who, what and why questions)

Purpose/Objective/Introduction: This should clearly state and explain what question or theory the experiment is going to examine and test. This can include some background observations that may have led you to investigate the particular purpose/objective.

Hypothesis: An “if/then…because” solution statement that draws on your previous knowledge and research. Scientific reasoning should be used. Be sure to include the independent (manipulated), dependant (responding) and control variables.

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

Materials: A list of all the materials and scientific apparatus used in the experiment. Include precise measurements with units.

Procedure: A numbered list of all the steps taken in the performing experiment, including materials. It should be clear enough so that someone else could perform the experiment. Explanations of how to control and measure variables identified in hypothesis.

Results & Analysis: A collection of all the raw data collected during the lab (this includes both qualitative and quantitative observations). Data can be collected using the 5 senses as well as the scientific instruments used during the procedure which can be presented as numbers, words, drawings or pictures. Numbers should be presented in data tables including units in the title. Any data that has been analyzed/transformed using formulae, graphs, etc. should be done in this section. Explanations and trends should be supported by the data collected, scientific reasoning and further research, making sure references are correctly cited.**

Conclusion & Evaluation: The hypothesis should be either supported or refuted in this section and conclusions should be drawn based on the analyzed and raw data from previous sections. Any unexpected data should be mentioned here too. The procedure should also be evaluated (was it reliable? Does the data you collected make scientific sense?) and extensions or improvements should be suggested. The data that was collected and analyzed and the conclusions drawn should be supported by other scientists’ research. Recommendations for further experiments/research and the implications of the experiment should be made. Local, international and global factors that may affect or be affected by the experiment should be discussed making sure sources are correctly cited.**

**APA style should be used when citing references in MYP science**
**www.citethisforme.com is a great online resource to use when citing references.**
**wikipedia will not be accepted as a valid source**
Lab reports will be marked using criterion B and C.

**Criterion B: Inquiring and designing**

<table>
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<tr>
<th>Achieveme nt level</th>
<th>Level descriptor</th>
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<tbody>
<tr>
<td>0</td>
<td>The student does not reach a standard described by any of the descriptors below.</td>
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</table>
| 1-2                | The student is able to:  
  * **state** a problem or question to be tested by a scientific investigation, with **limited success**  
  * **state** a testable hypothesis  
  * **state** the variables  
  * design a **method**, with **limited success** |
| 3-4                | The student is able to:  
  * **state** a problem or question to be tested by a scientific investigation  
  * **outline** a testable hypothesis **using scientific reasoning**  
  * **outline** how to manipulate the variables, and **state** how **relevant data** will be collected  
  * design a **safe method** in which he or she **selects materials and equipment** |
| 5-6                | The student is able to:  
  * **outline** a problem or question to be tested by a scientific investigation  
  * **outline and explain** a testable hypothesis **using scientific reasoning**  
  * **outline** how to manipulate the variables, and **outline** how **sufficient, relevant data** will be collected  
  * design a **complete and safe method** in which he or she **selects appropriate materials and equipment** |
| 7-8                | The student is able to:  
  * **describe** a problem or question to be tested by a scientific investigation  
  * **outline and explain** a testable hypothesis **using correct scientific reasoning**  
  * **describe** how to manipulate the variables, and **describe** how **sufficient, relevant data** will be collected  
  * design a **logical, complete and safe method** in which he or she **selects appropriate materials and equipment** |
### Criterion C: Processing and evaluating

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</tr>
</tbody>
</table>
| 1-2               | The student is able to:  
  * collect and present data in numerical and/or visual forms  
  * accurately interpret data  
  * state the validity of a hypothesis with limited reference to a scientific investigation  
  * state the validity of the method with limited reference to a scientific investigation  
  * state limited improvements or extensions to the method |
| 3-4               | The student is able to:  
  * correctly collect and present data in numerical and/or visual forms  
  * accurately interpret data and describe results  
  * state the validity of a hypothesis based on the outcome of a scientific investigation  
  * state the validity of the method based on the outcome of a scientific investigation  
  * state improvements or extensions to the method that would benefit the scientific investigation |
| 5-6               | The student is able to:  
  * correctly collect, organize and present data in numerical and/or visual forms  
  * accurately interpret data and describe results using scientific reasoning  
  * outline the validity of a hypothesis based on the outcome of a scientific investigation  
  * outline the validity of the method based on the outcome of a scientific investigation  
  * outline improvements or extensions to the method that would benefit the scientific investigation |
| 7-8               | The student is able to:  
  * correctly collect, organize, transform and present data in numerical and/or visual forms  
  * accurately interpret data and describe results using correct scientific reasoning  
  * discuss the validity of a hypothesis based on the outcome of a scientific investigation  
  * discuss the validity of the method based on the outcome of a scientific investigation  
  * describe improvements or extensions to the method that would benefit the scientific investigation |