Template #4 What Just Happened?

Due Date:_____
Date: :_____

The purpose of this template is to help you organize your Conclusion and Application section of your lab report.

THE CONCLUSION (also refer to your How to Write a Conclusion note)

You have performed your experiment, recorded your results, and performed some calculations with your data. Now you must see if your hypothesis (way back on Template 1) was correct and explain why the experiment worked the way it did.

Use must use your observations and data to support your hypothesis and you must do more research to explain the science behind the experiment.

Paragraph 1

Firstly, you must restate and evaluate your hypothesis. Just the first part though don't worry about the reasoning behind your hypothesis yet, that comes later (ignore the "because" part for now).

> **"My hypothesis that the salt water solution would increase the buoyancy of an egg more than a sugar water solution with the same amount of solute was correct."**

REMEMBER - it is okay if your hypothesis was wrong, just explain why it was wrong in your conclusion. The goal of this project is to learn something!

Secondly, you must use your qualitative observations to support what you have found out. It should be 5-6 good sentences long and contain relevant observations. Avoid using short sentences. (just like that…)

> **"My observations show that…"**

Thirdly, you must use your quantitative data and math from your calculations to support your findings. Don't just make a list with them, compare them by looking at differences or averages. You should comment on how the numbers you have relate to the experiment.

> **"My data shows that…"**

Paragraph 2

Finally, you must do some more scientific research to be able to explain **why** your experiment worked the way it did. This is where the why from the original hypothesis can be looked at. You must explain the **scientific theory** that is behind your experiment and try to use that theory to explain what happened. Also, consider what you might change or do differently if you were to perform this experiment again.

THE APPLICATION

What is an Application?

- root word in application is ***apply***
- how can you apply some of the science you have learned in the experiment to the "real world"
- "real world" is anything outside of the classroom or science lab
- if you cannot connect to anything then how useful is this knowledge?

Science comes from questions about the world around us so the answers should be applied to the world as well.

Questions to ask Yourself:

- "Who would want to know about this?"
- "How could this science be used?"
- "What problems does this science help solve?"
- "Who would benefit from it?"

How to Write an Application:

- an application should be one paragraph long (5-7 sentences)
- remember to apply the general science involved not just the specific experiment
- for example Mythbusters Lab
    - The science wasn't hammer hitting the water to survive a fall but it was the effect the hammer has on the surface tension and the effect the g-force had on people hitting the water.

Here is an **example** of an Application from Mr. Brooks' buoyancy experiment.

> The knowledge of how different substance affect the buoyancy of objects in water is applied to the shipping industry. Captains of cargo ships carrying goods must consider how buoyant the ship is in both fresh and salt water. A ship may float height in the salt water ocean but as it enters a fresh water river to go to port the ship would actually float lower in the water due to the weaker buoyant force in the fresh water. If the ship was too low in the water is could run aground or into rocks.

Rough Copy of Application