

Analysis of Two Science Lab Texts

For this assignment, I looked at two science texts online. The first one is called “Photosynthesis – AQA Synergy: Effect of Light Intensity on Photosynthesis.” The second one is “Water Density, Specific Weight and Thermal Expansion Coefficients – Temperature and Pressure Dependence.” I analyzed both of them based on four parts of a lab report: Title, Abstract, Introduction, and Means and Methods.

Title

Both texts have very clear titles. The photosynthesis one clearly tells us it is about how light intensity affects photosynthesis. When you read the title, you already know what the experiment or topic is about. It shows the cause (light intensity) and the effect (photosynthesis). The water density one has a longer title, but it is also clear. It says it talks about water density, specific weight, and thermal expansion, and how they change with temperature and pressure. It sounds more technical, but it still tells you exactly what the topic is. So I think both titles are strong and follow the correct format because they are specific and not confusing.

Abstract

Neither of the texts really has a real abstract like a normal lab report. The photosynthesis text explains the idea at the beginning, but it does not summarize results in one short paragraph. It talks more about how light affects the rate of photosynthesis instead of giving experiment results. The water density text also does not have an

abstract. It mostly gives data and explanations. It does not summarize an experiment or give a conclusion in one short section. So both texts are missing this part. I think this is because they are more like learning resources, not actual completed lab reports.

Introduction

Both texts do a good job explaining the science behind the topic. The photosynthesis text explains what photosynthesis is and how light intensity can change the rate of the reaction. It talks about limiting factors and why light is important. This helps the reader understand the topic better. The water density text explains what density is and how temperature and pressure can change it. It also explains why this is important for engineering and calculations. It gives a lot of useful background information. However, neither text clearly states a hypothesis like “If... then...” in a formal way. So they explain the topic well, but they do not fully follow lab report structure.

Means and Methods

This is where both texts are different from a normal lab report. The photosynthesis text explains how light intensity can be tested, but it does not give detailed step-by-step instructions like a student lab report would. It talks more about the concept than the exact procedure. The water density text mostly shows data tables and values at different temperatures and pressures. It does not explain how the experiment was done. It just gives the information. So both texts are missing a clear “methods” section. They are not written like full lab reports where someone could repeat the experiment exactly the same way.

Materials and Methods

The photosynthesis text talks about testing light intensity and how it can change photosynthesis. But it does not give clear step-by-step instructions like a lab report normally does. The water density text mostly shows numbers and data tables. It does not explain how the experiment was done. Because of this, the methods part is not very detailed in both texts.

Results

The photosynthesis text explains that when light intensity increases, the rate of photosynthesis also increases until it reaches a limit. The water density text gives many numbers showing how density changes with temperature and pressure. These numbers are the results.

Discussion

The photosynthesis text explains why light intensity affects photosynthesis. Plants need light energy to do this process. The water density text explains that when temperature changes, the density of water also changes. This is important in science and engineering.

Overall

Overall, both texts are good at explaining science. The titles are clear, and the introductions give strong background information. But they do not fully follow the lab report format from Chapter 19. They are missing a proper abstract and detailed methods section. I think the reason is because these texts are made to teach information, not to show a full scientific experiment from start to finish. So they meet some of the requirements, but not all of them.

Acknowledgements

There is no acknowledgements section in these texts. Normally this part thanks people who helped with the experiment.

References

1. <https://www.bbc.co.uk/bitesize/guides/zcphqhv/revision/6>
2. https://www.engineeringtoolbox.com/water-density-specific-weight-d_595.html