Water Quality Lab Report

Testing for Nitrates and Nitrites

Name: _____ **Date:** _____

Group Number: _____ **Lab Partners:** _____

Purpose

What is the goal of this experiment?

To practice gathering data about nitrate and nitrite concentrations in water samples using test strips to assess water quality.

Hypothesis

What do you predict about the nitrate and nitrite levels in the water samples? Why?

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Materials

- Water quality samples (4+ samples)
- Nitrate/nitrite test strips (4+ strips)
- Timing device
- Computer for data entry
- Sticky notes and markers

Procedure

Steps followed to test the water samples:

1. The Lab Technician took a water sample and shared the sample letter with the team.
2. A new test strip was dipped into the sample for 2 seconds without moving it while submerged.
3. The test strip was removed from the water and held flat for 1 minute (timed by the group).
4. The colors on the test strip were compared to the reference scale to determine nitrate and nitrite concentrations. If colors fell between two values, we estimated the midpoint.
5. Data recorders recorded the sample letter, nitrate value, and nitrite value in the data table, computer form, and on sticky notes. This process was repeated for all samples.

Data and Results

Data Table:

Sample Letter	Nitrate (ppm)	Nitrite (ppm)	Observations

Notes about measurements or observations:

Analysis and Discussion

1. Which sample had the highest nitrate level? Which had the lowest?

2. Which sample had the highest nitrite level? Which had the lowest?

3. Were there any patterns in your data? (For example, did samples with high nitrates also have high nitrites?)

4. What do nitrates and nitrites tell us about water quality?

5. Did your results support your hypothesis? Explain why or why not.

6. What are possible sources of error in this experiment?

7. How could you improve this experiment if you did it again?

Conclusion

Summarize what you learned from this lab. Include:

- Your main findings
- Whether your hypothesis was supported
- Why this experiment matters for understanding water quality