

Water Quality

Course/Grade Level: 9-12

Experiment Duration: 10-15 minutes

Website Link to Experiment:

[Testing Water Quality | Rowan Research | Rowan University](#)

Expectations:

1. Understanding of the purpose and importance of testing water quality.
2. Knowledge of the different types of test strips and their respective functions.
3. Ability to follow the instructions provided with the test strips accurately.
4. Proper labeling of water samples to avoid confusion.
5. Record keeping of results in a clear and organized manner.
6. Understanding of how to interpret results and make comparisons.
7. Awareness of the potential impact of water quality on the environment and human health.
8. Collaboration and teamwork in conducting the experiment.
9. Responsibility in handling the equipment and supplies.

Sample Data/Tables if Needed:

Context for Learning

Objective: to assess the water quality by using different types of test strips to measure parameters such as pH levels, nitrates, phosphates, and others, and to determine the overall water quality based on the results.

How this experiment relates to wastewater/water treatment:

This experiment relates to wastewater/water treatment by providing a way to monitor the quality of water before it is treated and released back into the environment. The results of this experiment can help identify any issues with the water quality, such as high levels of pollutants, which can be addressed through appropriate wastewater treatment processes.

Instructional Delivery

Materials:

1. Water samples from the source to be tested.
2. Different types of test strips (pH levels, alkalinity, nitrate, phosphate, and hardness)
3. Clean containers for collecting water samples.
4. Timer or stopwatch.
5. Color chart provided with the test strips.
6. Notebook for recording results.
7. Writing utensil (pen or pencil).
8. Ruler or measuring tape (if needed).
9. Protective gloves (optional).
10. Safety glasses (optional).

Procedures:

1. Collect water samples from the source to be tested in clean containers.
2. Label each container with the sample number or source location.

3. Prepare the test strips by following the instructions provided on the packaging. Make sure to immerse the strips in the water sample for the specified amount of time.
4. Remove the strips from the water sample and compare the color change on the strips to the color chart provided with the kit.
5. Record the results for each type of test strip for each water sample in a notebook or data table.
6. Repeat the testing process for all water samples collected.

Assessment/Evaluation

Questions:

1. What is the purpose of testing water quality?
2. What are the different types of test strips used in this experiment?
3. How do you interpret the results of the test strips?
4. What is the importance of monitoring water quality?
5. How can water quality impact human health and the environment?
6. How can water treatment processes ensure the water being released back into the environment is safe?
7. What role does this experiment play in monitoring water quality and promoting environmental sustainability?
8. Can you explain how the results of this experiment could be used to improve water treatment processes?
9. How does this experiment relate to real-world water quality issues and their impact on society?

Notes: