



Project 4.3.5 Drink This

Purpose

In *Activity 4.3.4 Testing for Quality*, you conducted several tests that indicate the quality of water within a stream. You may have wondered if or how any of these tests apply to the water you drink. While the Water Quality Index is used to determine stream water quality, the Environmental Protection Agency (EPA) and other local agencies monitor and determine standards for drinking water for human consumption. A list of selected drinking water standards is below.

Selected EPA Drinking Water Standards	
Contaminant	Standard
pH	6.5-8.5
Total Dissolved Solids	< 500 mg/L
Turbidity	< 5 NTU
Chloride	< 250 mg/L
Nitrate	< 10mg/L
Copper	< 1.3 mg/L
Lead	< 0.015 mg/L

Do you drink water from a municipal water supply? Maybe your water comes from a well? Or do you always drink bottled water? How will you know if the water you drink is within the EPA standards for drinking water?

Materials

Per pair of students:

- Water samples of choice
- LabQuest2
- Vernier sensors of choice
- Assorted lab equipment

Per student:

- *Lab Report Template*
- *Lab Report Evaluation Rubric*
- Pencil
- *Agriscience Notebook*

Procedure

Work with a partner to design and conduct an experiment on water to determine the drinking quality of water samples. You and your partner will develop questions, make predictions, and design the experiment and data collection procedures. When you have completed these steps, have your teacher review your experiment. Upon receiving teacher approval, you and your partner may conduct the experiment.

Question

With your partner, make a list of possible questions you may have about the quality of drinking water. Record your questions on *Project 4.3.5 Lab Plan*. You will have access to multiple sources of water and all materials used in *Activity 4.3.4 Testing for Quality*. Decide which question you and your partner will answer in your experiment and circle that question.

Hypothesis

Now develop a prediction of what your results will be. Record your prediction on *Project 4.3.5 Lab Plan*.

Materials and Procedure

Determine how you will conduct your experiment, make a list of all materials, and write step-by-step procedures on the lab plan. Use additional paper if necessary. Be sure your procedures are specific enough for another person to conduct your experiment.

Data Collection

Develop a data table to collect your results. Once you have developed the data collection table, have your teacher review your predictions, materials, procedures, and data table. Make revisions as necessary and when your experiment has been approved, conduct the experiment.

Finally, use the *Lab Report Template* to write a detailed report on your findings and scientific conclusions. Review the *Lab Report Evaluation Rubric* for assessment standards.

Conclusion 8.92

1. Were there water quality tests that were unimportant when testing drinking water? If yes, which one(s) and why? If no, why not? yes the ph. teats

2. What other contaminants may have been in your drinking water that you did not test for? Bacteria

Fridge water = ph8.92

Sink water = ph7.36

Name _____

Project 4.3.5 Lab Plan

Table 1. Possible Questions

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Table 2. Prediction

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Table 3. Materials

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Table 4. Procedures

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Table 5. *Data Table*

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Teacher Approval Signature:

Date: