

Is It Healthy, or in Trouble? Handout

Students complete a table to organize water quality data, predict levels, and test for nutrient levels.

QUESTION: Can scientists make predictions about the health of a lake by observing its yearly nutrient patterns?

RESEARCH DATA FOR _____ LAKE:

1. Go to www.pinellas.wateratlas.org.
2. Go to ATLAS > Lake Name and scroll down to _____ LAKE.
3. Review latest values.
4. Click on the Water Quality tab on the top menu.
5. Review the different sections of water quality to become familiar with terms and numbers.
6. Go to Nutrient Chemistry.
7. Pay close attention to nitrogen, phosphorus, and chlorophyll levels.
8. Click on Graph Trend for Nitrogen. Study the data on the graph.
9. Record the range of data for the past 2 years on your data table. What is the date of the last test?
10. Do the same for phosphorous and chlorophyll; including data ranges and testing years.

IF YOU HAVE ACCESS TO A LAKE: Based on the nutrient graphs, make a prediction about the outcome of the testing you will conduct on your lake. Will current nutrient readings be in the “good” range or “needs help” range?

NUTRIENT TESTING PROCEDURES:

1. Fully read the directions of your assigned test kit before starting.
2. Be sure to wear gloves, if needed.
3. Collect water sample in proper sample bottle and label.
4. Run tests on sample according to directions in the kit.
5. Record data on data table.
6. Clean up equipment and return to classroom.
7. Share data with classmates.
8. Record data shared by other lab groups.
9. Study results and write a conclusion based on your gathered evidence.

DATA TABLE: NUTRIENT LEVELS IN _____ LAKE, DATES: _____ TO _____

Nutrient Type	Range/Amount for past year 20__	Amount for 20__ present year	Prediction for (date) _____	Actual Amount for (date) _____
Total Nitrogen	Range: _____ High: _____ Low: _____	Range: _____ High: _____ Low: _____		
Total Phosphorus	Range: _____ High: _____ Low: _____	Range: _____ High: _____ Low: _____		
	Range: _____ High: _____ Low: _____	Range: _____ High: _____ Low: _____		

Name: _____

Date: _____

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CONCLUSION:

1. Based on the patterns of nutrient levels you recorded, what would you say is the trophic level of _____ Lake? Explain.

2. Was there a noticeable pattern to the nutrient levels in _____ Lake over the past three years? Explain.

3. Were your predictions proven or not? Explain.

4. If you saw any patterns in nutrient levels, what do you think is causing these patterns? Explain.

5. Do you think scientists can always make predictions about the health of a lake by observing its yearly nutrient patterns? Explain.

Name:

Date: