Is It Healthy or In Trouble? *Handout*

Students investigate the causes of pollution in our surface waters.

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

1. Visit the Orange County Water Atlas website.
2. Find "your" lake by typing its name into the **Water Resources Search** box, then click on the link to get its general information page.
3. Click on the **Water Quality** tab. Once the page loads, click on the **Nutrient Chemistry** link.
4. Review the different sections of water quality to become familiar with terms and numbers.
5. Click on the **Learn More about Nutrient Chemistry** link to get more information about nitrogen, phosphorus, chlorophyll, and how water samples were collected and tested. When you are finished reading, go back to the water quality data page.
6. Pay close attention to nitrogen, phosphorus, and chlorophyll levels.
7. Use the links on the page to graph Nitrogen values for the lake. Study the data on the graphs.
8. Record the range of data for the past 2 years on your data table. What is the date of the last test?
9. Do the same for phosphorous and chlorophyll; including data ranges and testing years.
10. Based on the nutrient graphs, make a prediction about the outcome of the testing you will conduct on your lake. Will current nutrient levels be in the "good" range or "needs help" range?

Data Table: Nutrient Levels in _____ Lake, Dates: _____ To _____

Nutrient Type	Highest Value (Last 2 Years)	Lowest Value (Last 2 Years)	Most Recent Value	Most Recent Test Date	Your Prediction	Actual Value
Total Nitrogen						
Total Phosphorus						

Nutrient Testing Procedures:

1. Fully read the directions of your assigned test kit before starting.
2. Be sure to wear gloves, if needed.
3. Run tests on sample according to directions in the kit.
4. Record data on data table.
5. Clean up equipment and return to classroom.
6. Study results and write a conclusion based on your gathered evidence.

Conclusion: _____

_____

Name: Date: