Phosphates in Your Water

Name _____ Date _____

During the next two weeks, you will observe and record what happens to 3 jars of pond water when you add different amounts of detergent containing phosphates.

Materials

- Water, plants (including roots), and mud from a pond
- Long-handled spoon or thin gardening trowel
- 3 half-gallon, glass canning jars
- Masking tape/pens for labels
- Measuring spoons
- Fertilizer containing phosphates
- Dissolved oxygen test kit (available at aquarium supply stores)

Do This

1. Collect water, plants (including roots), and mud from a pond. Be sure to get permission from the property owner before collecting pond water or other items.
2. Plant equal amounts of water plants in three half-gallon, wide-mouth canning jars. Use a long-handled spoon to make sure the roots of the plants are securely in the mud mixture.
3. Slowly pour pond water into the jar. Try not to stir up the mud too much.
4. Label jars 1 through 3.
5. Place the appropriate amount of fertilizer in each jar using the amounts listed in the chart.
6. Measure the amount of dissolved oxygen in each jar according to the kit directions and record it on the activity sheet.
7. Put all the jars in a sunny location.
8. Observe daily for 2 weeks and record your observations.
9. On day 7 and day 14, measure the amount of dissolved oxygen in each jar again and record it on the activity sheet.
10. Record, analyze, and discuss your observations.

	Jar 1: Control (no fertilizer)	Jar 2: 1/2 tsp fertilizer	Jar 3: 1 tsp fertilizer
Day 1			
Dissolved oxygen	_____	_____	_____
Day 7			
Dissolved oxygen	_____	_____	_____
Day 14			
Dissolved oxygen	_____	_____	_____

Analysis

At the end of the experiment, which jar had the most vigorously growing plants?

_____

Which one had the least dissolved oxygen?

_____

Conclusion

What would happen in a stream that has an excess of phosphates, warm temperatures, and good sunlight? _____

_____

_____