

INVESTIGATING WHAT'S BLOOMING

Objective

To examine the effects of nutrients on an aquatic system.

Materials for Each Group

- Goggles and gloves
- 7 jars
- Cheesecloth or coffee filters
- Rubber bands
- Masking tape
- Graduated cylinders
- Pond water
- Spring Water
- Fertilizer
- Detergent
- Nutrient measurement materials

Procedure

Wear gloves and goggles while setting up your jars and when you measure the nutrient levels. Always wash your hands when you are finished.

Set-up

1. Label the jars 1-7 with the masking tape.
2. Fill each jar with a mixture of $\frac{1}{2}$ pond water and $\frac{1}{2}$ spring water. Your teacher will tell you how much to add. Use the graduated cylinders to be sure you put the correct amount in each jar.
3. Jar 1 will be your control. **Do not add fertilizer or detergent to this jar.**
4. Measure 1.25 g of fertilizer and add it to jar 2.
5. Measure 2.5 g of fertilizer and add it to jar 3.
6. Measure 5 g of fertilizer and add it to jar 4.
7. Measure 1.25 g detergent and add it to jar 5.
8. Measure 2.5 g detergent and add it to jar 6.
9. Measure 5 g detergent and add it to jar 7.
10. Cut 7 squares from the cheesecloth large enough to cover the openings of the jars or use coffee filters.
11. Cover each of the jars with a square of cheesecloth or coffee filter and secure with a rubber band.
12. Set the jars in a sunny location.

Data Collection

Record your data on the What's Blooming Data Sheet.

1. On **day 1**, measure the dissolved oxygen, nitrogen, and phosphorus in each of the jars. Follow the directions your teacher gives you for how to measure these. Don't forget to record your measurements.
2. Observe your jars for 14 days. **Every day**, make visual observations and describe how each jar looks. Don't forget to record your observations.
3. On **day 7** measure the dissolved oxygen, nitrogen, and phosphorus in each of the jars. Don't forget to record your measurements.
4. On **day 14** measure the dissolved oxygen, nitrogen, and phosphorus in each jar again. Don't forget to record your measurements.
5. After your last day of measurements, follow the directions your teacher gives you for cleaning up your jars.