LESSON PLAN

Barbara Wallace – Harbor City Elementary, Melbourne, FL

Lesson Title: How much is too much?

Grade Level: 6th Grade

Topic: Depletion of Oxygen from Too Many Plants in a Body of Water

Time Required: Set up time: One 60 min. class
Observation time: Several weeks to several months

Objectives:
1. Students will be able to use dissolved oxygen test kit.
2. Students will observe the relationship between dissolved oxygen in different water samples containing varying amounts of decayed plant life.

Materials:
- Dissolved oxygen test kit
- 5 large containers with lids
- Large supply of lake, pond, or river water
- Supply of plants pulled from water source
- Supply of bottom sediments pulled from water source

Procedure:
1. Class discusses need for dissolved oxygen in our water sources for sustaining healthy balance in watery ecosystems.
2. Teacher models use of DO test kit and importance of maintaining adequate oxygen levels (app. 5-6 mg/L) to sustain any biological diversity.
3. Class is broken into 5 groups with assigned responsibilities.
4. Each group chooses which sample they want to test. Over >
   a) container with water only
   b) container with water and ½ cup sediment
   c) container with water and ½ cup sediment and 1 cup plant matter
   d) container with water and ½ cup sediment and 2 cups plant matter
   e) container with water and ½ cup sediment and 4 cups plant matter
5. Students in each group perform DO tests from sample in original supply container. Records results.
6. Each group sets up their container with water/sediments/ plant matter as agreed and labels container. Cover with an airtight lid.
7. Containers are placed in a warm, but not sunny area. Keep closed.
8. Wait several weeks or months dependent on whether decay of plant matter is obvious.
9. Open containers and perform DO tests. Records results.
10. Compare results of DO test with first tests taken and with other

groups. Chart or graph results with class.

Data: Keep data on DO tests, before and after, as well as amounts of plant matter in each container.

Questions:

1. Why do we keep airtight lids on containers?
2. Why do we include sediment in test containers?
3. Which container is the control?
4. How does this relate to a "healthy" water ecosystem?
5. How does one sample compare to another?
6. Why do some lakes rivers have "too many" plants?