



Title: Biodiversity of Ponds
Lesson Plan # 3
Name: Adele Allison

Purpose:

- To practice use of microscope and stereoscope.
- To make a wet mount.
- To see the organisms in pond water
- To learn how to distinguish the characteristics of the organisms in the pond water

Terminology:

- Algae
- Protozoa

Activity:

- Observe each sample of pond water under the stereoscope
 - Record and draw the living things observed
- Make wet mounts from each of the sample pond waters
- Find and draw at least two kinds of algae
 - Label obvious features
- Find and draw at least two kinds of protozoa
 - Label obvious features

Procedure:

- Review use and safety of microscope and stereoscope
- Review how to make a wet mount
- Each lab group will:
 - Place of a few drops from each sample in a petri dish and observe it under the stereoscope
 - Make a wet mount from each of the pond samples
 - Use pond identification sheet to help identify the organisms
 - Draw at least 2 types of algae identified and label each obvious structure

Standards:

Grade: 9-10

- SC.A.1
- SC.A.1.3.1
- LA.B.1

Objectives:

- Students will observe and record data on three ponds, with emphasis on the types and numbers of organisms in each.
- Students will prepare a report that discusses the biodiversity of each pond

Supplies:

- Pond water from the school pond
- Pond water from pond at Mary Holland Park
- Pond water from a retention pond
- Microscope
- Stereoscope
- Slides and cover slips
- Cotton strands
- Petri dishes
- Pond water identification sheet
- Diagram worksheet
- Colored pencils

Preparation:

- Xerox pond identification sheet
- Xerox pond diagram worksheet
- Get pond water samples

Estimated Time:

- 1 Block period

- Draw at least 2 types of protozoa and label obvious structures
- Construct a data table and record numbers of each type of organism found
- Record observations such as how the organism moves or descriptions of structure
- Choose at least 4 organisms that you have good counts for and create a graph that compares the populations of the organisms in each of the ponds.
- Make a bar graph for the comparisons of populations
- Compare data with other lab groups and make a list of generalizations about what type of organisms are found in pond water
- Write a paragraph with the report conclusions. Include:
 - Generalizations concerning data gathered
 - Answer the question: Which pond had the greatest biodiversity? Include the data to support the answer.

Background:

- Use of microscope
- Use of stereoscope
- Making a wet mount

Assessment:

Rubric

Educator's Notes

- When getting pond water samples take care to pull some vegetation from the bottom of the pond
- Make sure administration knows when the class is at the pond
- Pond Identification Sheet
www.biologycorner.com/worksheets/biodiversity.html