

# PROTIST LAB

## STUDENT LEARNING OBJECTIVES

Students will identify and sketch representatives of major Protist groups, prepare a wet mount of pond water, and construct a lab report.

## MATERIALS

Pond water

Slides of preserved specimens:

- Euglena, Volvox, Diatoms, Paramecium (binary fission and conjugation), Amoeba, Plasmodium, Trypanosoma, and Trichonympha.

Microscopes

Slides and cover slips

Water droppers

Paper towels

Protist Lab illustrations sheet

## PROCEDURES

### Agenda

- Protist Lab

### **Discuss Lab Procedures:** (3-5 min)

Microscopes have been setup around the room. Each side of the room has different setups. Students form groups of two or three and move to a station on either side of the room. At their station students will have several slides of preserved specimens from which to make sketches on their illustrations sheet. On the right side of the room students will find Amoeba, Paramecium, and Euglena, and on the left side of the room Volvox, Diatoms, and Plasmodium. Once a group has finished their sketches of the Protists on one side of the room, they move to a station on the other side of the room. If there are no stations available, they may either move to the station setup at the front of the classroom or start working on their wet mounts. The station at the front of the classroom contains slides for Paramecium (conjugation and binary fission), Trypanosoma, and Trichonympha.

Before students leave they must answer the questions provided, write a lab report, and staple both to the top of their illustrations sheet.

### **Wet Mount Demonstration:** (5 min)

Students will obtain a clean slide, put two drops of pond water in the center, and gently place the cover slip over the top. It's a good idea to collect the pond water in the dropper and wait a few seconds for stuff to settle at the tip of the dropper before squirting the contents onto the slide. When students have completed their drawings they should discard the cover slips and place the slides in the dedicated spot.

**Sketches and Preparing Wet Mounts: (25 min)**

Students use the illustration sheet provided to sketch the six Protists on the lab counters and two additional slides from the station at the front of the classroom. Students should be encouraged to use colors whenever colors are observed in the organisms. Along with sketches, students need to include the name of the Protist (as identified on the slide) and magnification used.

On the back of their illustrations sheet or on another sheet of paper students will make sketches of critters they observe in the pond water. Once again using colors when necessary and magnification used.

**Lab Report: (15 min)**

Students are presented with an outline of the required sections of the lab report. Students will not receive credit unless the lab report contains all of the following:

**Title:** Should be unique and informative.

**Purpose:** "To identify and sketch different types of Protists"

**Materials:** What did you need to complete the lab?

**Procedure:** What did you do?

**Results:**

Illustration sheet (6 Protists, wet mount, and 2 extras)

Answers to six questions

**ASSESSMENT**

Each student will make sketches of at least eight Protist slides, prepare a wet mount of pond water, and write a lab report.

**REFERENCES**

BIOLOGY: The Dynamics of Life

Glencoe Science, Florida SSS Edition

# LAB REPORT

**Title:** Should be unique and informative.

**Purpose:** “Identify and sketch different types of Protists”

**Materials:** What did you need to complete the lab?

**Procedure:** What did you do?

## Results:

Illustration sheet

Answers to the following questions:

- (1) Why is **Volvox** considered a colonial organism?
- (2) What part of the **Diatoms** did you observe?
- (3) What does **Euglena** use to move around?
- (4) How do **Amoebas** obtain food?
- (5) How are **Sporozoans** different from other protozoans?
- (6) What is the function of the contractile vacuoles in the **Paramecium**?