

**Nedwidek Revised LABORATORY REPORT EXERCISE #4  
LABORATORY QUESTIONS: OBSERVING LIVING PROTISTS**

Name \_\_\_\_\_ Section \_\_\_\_\_ Teacher DR. NEDWIDEK Date \_\_\_\_\_

**Pre-lab exercise (AT HOME):**

1. You will be working with **Paramecia**, **Euglenoids**, and, in an ideal world, **Amoebae**, in this lab. For **EACH** of the organisms listed above address the following points in the charts below:

- a) To what phylum does each belong and what are the general characteristics of that phylum?
- b) What is the primary mechanism of locomotion for each of these organisms? Limit your answer to one word in the first chart below.
- c) Specify a genus and species for each in chart 2 below, and how it accomplishes nutrition.

<b>Chart 1:</b>	<b>Phylum</b>	<b>Characteristics</b>	<b>Locomotion</b>
Paramecia	_____	_____	_____
Euglenoids	_____	_____	_____
Amoebae	_____	_____	_____

<b>Chart 2:</b>	<i>Genus</i>	<i>species</i>	<b>Nutrition Mechanism</b>
Paramecia	_____	_____	_____
Euglenoids	_____	_____	_____
Amoebae	_____	_____	_____

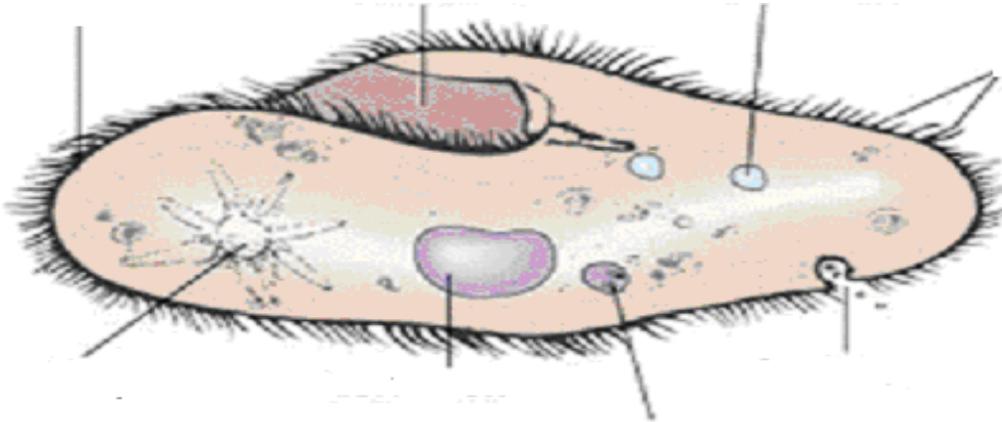
2. Why would a Euglena most likely be found near the surface of the pond? Where would a paramecium or blepharisma be found and why?
  
3. Congo red is called a “pH indicator”. What does this mean?
  
4. Paramecia have specialized structures called trichocysts. What is their function in the cell? Why are the trichocysts launched by a paramecium?

**SUMMARY QUESTIONS AND DRAWING GUIDELINES (AT LAB):**

1. Use the Drawing Form from this Lab Manual to **DRAW IN PENCIL ONLY** and name above your drawing **TWO** of the (non-paramecium) protists you observed under 40x or 100x **and specify the magnification underneath each drawing, as well as their estimated sizes in micrometers ( $\mu\text{m}$ ).** Make sketches which capture their activities, such as their way of moving or eating. **LABEL the cell membrane and nucleus for each with a line pointing to the structure**, and label any other cellular structures that you can observe.
2. Describe below the motion of each of the above protists you drew as they move in one direction.
3. Use the opposite side of the Drawing Form from this Lab Manual to **DRAW IN PENCIL ONLY a sketch** of a paramecium under **high power (400x)** showing several yeast-filled food vacuoles. **Label the cell membrane, the nucleus, and the filled vacuoles, indicating magnification underneath.** **DRAW a pencil sketch** of a paramecium under **high power (400x)** which has discharged its trichocysts. **Label the trichocyst structure and indicate magnification underneath the drawing.**
4. How did the paramecium react when it encountered an object?
5. What happens to the color of the Congo red yeast mixture as it is ingested and circulated in the food vacuoles of the paramecium? Why do you think this is happening? Hint: Congo red behaves similarly to litmus.
6. Describe what you saw when you added acidified blue ink to the paramecia to induce trichocyst formation.

7. Label the following 8 structures in the diagram of the paramecium below **(AT HOME)**:

- |                                |                            |                     |                     |
|--------------------------------|----------------------------|---------------------|---------------------|
| <b>Pellicle</b>                | <b>Contractile Vacuole</b> | <b>Macronucleus</b> | <b>Cilia</b>        |
| <b>Cytostome (oral groove)</b> | <b>Micronucleus</b>        | <b>Anal Pore</b>    | <b>Food Vacuole</b> |



**Closing Declaration:** At the close of this lab report, I can attest to having done it by my own hand. If I received help from peers or from tutors in doing it, this was purely to understand the material, and I did not knowingly transfer information from or to other sources (my peers or otherwise) in the process of doing this work.

**Student Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Lab Completed Satisfactorily** \_\_\_\_\_  
**Teacher Signature**