## Morgan-Carter Lab #13 – PROTISTS

## Ex. 13.1 – Supergroup Excavata

La	Lab Study A: Euglenozoans – Example: Trypanosoma levisi		
1.	In the space below, draw several representative examples of <i>T. levisi</i> and several red blood cells to show relative sizes.		
2.	Refer to table 13.5 on pages 363-364 and list the characteristics, ecological roles, and economic importance of <i>T. levisi</i> .		
La	b Study B: Euglenozoans – Example: <i>Euglena</i>		
1.	Describe the shape and movement of Euglena. Where are the flagella located and where are they positioned as the cells move?		
2.	Describe the shape, numbers, and locations seen in living Euglena and then in the prepared slide. Describe the surface striations. Are they linear? Irregular? What makes these striations?		
3.	Speculate about a possible role for the photoreceptor.		
4.	Refer to table 13.5 on pages 363-364 and list the characteristics, ecological roles, and economic		

4. Refer to table 13.5 on pages 363-364 and list the characteristics, ecological roles, and economi importance of euglenids.

#### Ex. 13.2 – Supergroup "SAR"

Lab Study A:	Stramenopiles – Examples: Diatoms, Brown Algae, and Water Molds
Diatoms:	

- 1. In the space below, sketch several different shapes of diatoms.
- 2. Refer to table 13.5 on pages 363-364 and list the characteristics, ecological roles, and economic importance of diatoms.

#### **Brown Algae:**

1. In the table below, list the names and distinguishing characteristics of each brown algal species on demonstration.

**Table 13.2** Representative Brown Algae

Name	Body Forms	Characteristics

2. Refer to table 13.5 on pages 363-364 and list the characteristics, ecological roles, and economic importance of brown algae.

#### Water Mold Saprolegnia (Oomycetes)

1. From your observations, describe the vegetative (nonreproductive) body of *Saprolegnia*. Do you see filaments (hyphae)?

	Sketch below and describe any reproductive structures observed. Did they appear to contain spore-like structures?
3.	Refer to table 13.5 on pages 363-364 and list the characteristics, ecological role, and economic importance of <i>Saprolegnia</i> .
La	b Study B: Alveolates – Examples: Paramecia, Dinoflagellates, and <i>Plasmodium</i> species
Α	Ciliate – Paramecium caudatum:
1.	Label the diagram of a paramecium to the right.
2.	Refer to table 13.5 on pages 363-364 and list the characteristics, ecological roles, and economic importance of paramecia.
Di	noflagellates:
	noflagellates: In the space below, sketch several examples of dinoflagellates. Note the differences between the species on your slide and those in Figure 13.7.

### Apicomplexan – *Plasmodium* species

1.	In the space below, sketch a view of your slide showing several red blood cells and <i>Plasmodium</i> parasites.
2.	Refer to table 13.5 on pages 363-364 and list the characteristics, ecological roles, and economic importance of <i>Plasmodium</i> species.
La	b Study C: Rhizarians – Examples: Foraminiferans and Radiolarians
Fo	raminiferans:
1.	In the space below, sketch several different forams.
2.	Refer to table 13.5 on pages 363-364 and list the characteristics, ecological roles, and economic importance of forams.
Ra	diolarians:
1.	In the space below, sketch several different radiolarians.
2.	Refer to table 13.5 on pages 363-364 and list the characteristics, ecological roles, and economic importance of radiolarians.

#### Ex. 13.3 – Supergroup Unikonta

#### Lab Study B: Amoebozoan Slime Molds – Examples: Physarum and Dictyostelium

1. In the space below, sketch the plasmodium and fruiting bodies and be sure to label visible structures

2. Refer to table 13.5 on pages 363-364 and list the characteristics, ecological roles, and economic importance of slime molds.

#### Ex. 13.4 - Supergroup Archaeplastida

#### Lab Study A: Red Algae (Rhodophyta)

1. In the table below, list the names and distinguishing characteristics of each red algae on demonstration.

Table 13.3 Representative Brown Algae

Name	Body Form	Characteristics

2. Refer to table 13.5 on pages 363-364 and list the characteristics, ecological roles, and economic importance of red algae.

# Lab Study B: Green Algae (Chlorophyta and Charophyta – The Protist-Plant Connection) Chlamydomonas – A Unicellular Chlorophyte

1. Describe the shape of individual cells and their swimming pattern.

Spirogyra – A Filamentous Chlorophyte  1. Describe the appearance of the chloroplasts. Can you see a nucleus in each cell of the filament?					
<ul><li><i>Ulva</i> – A Multicellular Chlorophyte</li><li>1. Describe the appearance and form of Ulva.</li></ul>					
2. Are there structures present that would serve to attach Ulva to a substrate? If so, describe them.					
Chara – A Multicellular Chlorophyte  1. In the table below, list the names and distinguishing characteristics of each group algal species					
<ol> <li>In the table below, list the names and distinguishing characteristics of each green algal species studied.</li> <li>Table 13.3 Representative Green Algae</li> </ol>					
Name Body Form Characteristics					

2. Refer to table 13.5 on pages 363-364 and list the characteristics, ecological roles, and economic

importance of red algae.

2. Look for the two flagella. Where are they attached to the cell? Do they appear to pull or push the

## Ex. 13.5 – Designing and Performing an Open-Inquiry Investigation

1. State your hypothesis below.	
2. Predict the results of your experiment based on your hypothesis.	
3. Outline the procedures used in your experiment.	
4. Record your results below.	
Review your results and indicate whether or not your hypothesis is supported	i.