Name Date Per

UNIT 9 | ONLINE LAB | *Euglena Observations Lab*

Note: this lab is completed online. Visit the following address and click on "Lab 3"

http://labs.7bscience.com/protist-labs.html

Purpose:
•To observe euglena and how they move
•To identify the parts of an euglena

Part One - Background
Today you will observe another protist. In the previous labs (online or in class) you observed a type or protist called a protozoan. Now you will observe a type of protist called an algae. All algae are _____ protists. This is because they are autotrophs---they use _____ to make their own food.

The algae you will observe today is called a euglena. It is a type of _____. Euglena are examples of algae because its cell contains _____ which allow it to carry out _____. However, scientists have observed that euglena can also be _____; they can also eat to obtain energy!

Euglena also have _____ that help them survive. For example, they have flagella that allow them to _____, a pellicle which gives them their _____, and an eye spot which is used to help detect the location of _____. In fact, if you place euglena in a container, place it by a sunny window, and cover half the container, the euglena will move to the sunny side!

Part Two - Cell Structures
The structure of the euglena is similar to the other protists we have studied. On the outside of the euglena is the _____. Recall that the pellicle is a _____ but _____ covering that gives the organism its shape. Underneath the pellicle you will find the _____ _____. You will also find the _____, the long whip-like structure used for _____.

Inside the euglena we will find several familiar organelles. First, you should be able to observe the _____. Unlike the paramecium, the euglena only has one nucleus. It controls the _____ _____. In addition you should be able to observe contractile vacuoles. Recall that the contractile vacuole collects and expels excess water

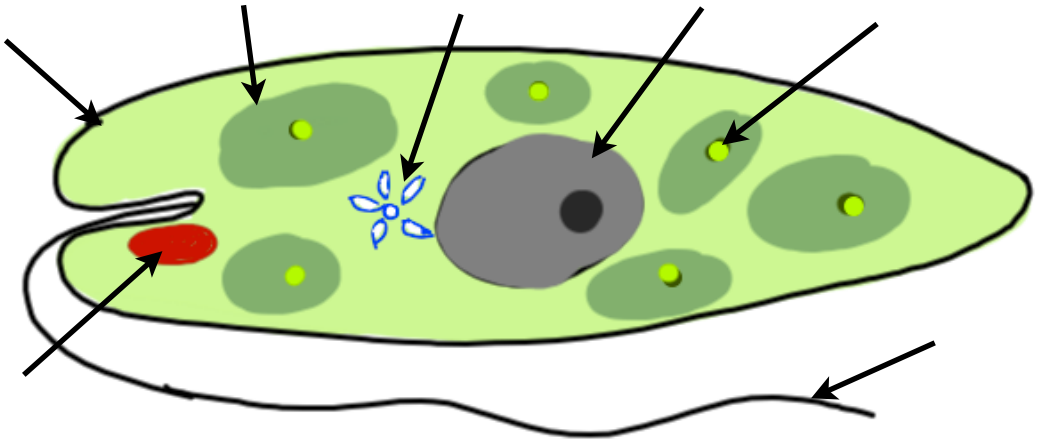
from the cell. Another common organelle is the _____. These green structures allow the euglena to carry out _____.

Now let's learn about some new organelles. First, you should be able to observe a red spot. This is called the _____ _____ (also known as the _____). It helps the euglena detect sources of _____. It works by blocking some light sources so the euglena can tell which direction the brightest source is coming from. Second, you will notice long, rod-shaped parts. These are called the _____ _____. They are similar to _____ _____. They store _____ created during photosynthesis. Sometimes these appear as spots on or near the chloroplasts.

Before moving on, watch the videos to see how many parts you can identify.

Part Three - Labeling the Diagram

Label the diagram below with the following parts: chloroplast, contractile vacuole, flagellum, nucleus, paramylon granule, pellicle, and eye spot (stigma)



Part four is found on the next page.

Part Four - Reflecting

Answer the following questions.

1. Which group of protists to euglena belong to? _____

2. Euglena contain chloroplasts. When light is limited, they can eat particles to obtain energy. Are these organisms classified as heterotrophs or autotrophs? _____

3. Euglena are not the only organisms that have flagellum. Zooflagellates are protozoa that also have flagella. Although euglena and zooflagellates move by flagella, why are these organisms classified differently? _____

4. Name two organelles you could find in a euglena that you couldn't find in a zooflagellate.

_____

5. You place millions of euglena into a container and place it by the window. The entire container is a bright green color as the euglena swim freely. You cover half the container, block out the sunlight. At the end of the day, you return to the container and find that all the euglena are now on the uncovered side. Explalin why this happened. Your answer must include the works: eye spot (stigma), sunlight, and photosynthesis.

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