

NAME _____

DATE _____

Introduction to Protista: *Euglena*

In this activity you will observe *Euglena* as an example of a protist.

Proceed to the workstation and pick up a microscope slide. Observe the *Euglena* culture. Use a dropping pipet to remove a sample from the culture. To sample, squeeze the bulb of the pipet and lower the tip into the water to the area being sampled. Release pressure on the bulb to draw in the sample. Place 2–3 drops of the sample on a slide and gently cover with a coverslip. Examine under the low-power objective of your microscope. Look for spindle-shaped cells swimming in the water.

Study several euglenas carefully and note the following:

Chloroplasts Green structures containing the pigment chlorophyll. There may be so many of these that they make the observation of other organelles difficult.

Pyrenoids Food storage bodies. These appear as dots located near the center of each chloroplast.

Contractile vacuole A clear, spherical structure which alternately appears, grows to large size, and suddenly disappears by discharging its contents into the surrounding medium.

Eyespot (stigma) Red in color and located near the anterior end.

Nucleus Located near the center of the cell. The nucleus of *Euglena* contains a darker body called an endosome. The nucleus and endosome are best seen in stained preparations.

Flagellum A whip-like organelle at the anterior end, for locomotion. Note the manner of its movement. The flagellum can be difficult to visualize. If you cannot see it, Protoslo[®] will help. To use Protoslo, thoroughly mix a drop of Protoslo with the drops of culture on a slide before adding the cover glass. The drops of Protoslo and culture must be well mixed or the *Euglena* may be forced to the margins when the cover glass is added. Protoslo increases the viscosity of the water, making it difficult for *Euglena* to swim. It also changes the refractive index of water just enough to provide increased contrast with the flagellum, making it more visible.

Euglena are protists that have both animal-like and plant-like characteristics. Based on your observations, list at least one characteristic that euglenas have in common with animals and one characteristic they have in common with plants.

Animal-like _____

Plant-like _____

Make a drawing of a *Euglena*, labeling the parts.

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