

## Euglena

Directions: Color the Euglena according to the directions. Organelles can be identified based on their descriptions and locations.

Euglena are unicellular organisms classified into Kingdom Protista. Euglena usually live in quiet ponds or puddles

### Movement

Euglena move by a flagellum which is a long whip-like structure that acts like a little motor. The flagellum is located on the front end and twirls in such a way as to pull a cell through the water. It is attached at an inward pocket called the **reservoir**. **Color the reservoir grey and flagellum black.**

### Feeding

The Euglena is unique in that it is both autotrophic (can make its own food) and heterotrophic (must eat food). **Chloroplasts** within the euglena trap sunlight that used for photosynthesis, and can be seen as several rod like structures throughout the cell. **Color the chloroplast green.** Euglena also have an **eyespot** at its front end that detects light; it can also be seen near the **reservoir**. This helps the euglena find the bright areas to gather sunlight to make their food. **Color the eyespot red.** Euglena can also gain nutrients by absorbing them across their **cell membrane**. They become **heterotrophic** when light is not available and they cannot photosynthesize.

### Structure

The euglena has a stiff **pellicle** outside the **cell membrane** that helps it keep its shape. The pellicle is somewhat flexible and some euglena can be observed scrunching up and moving in an inchworm type fashion. **Color the pellicle blue.**

In the center of the cell is the **nucleus**, which contains the cell's DNA and controls the cells activities. The **nucleolus** can be seen with **nucleus**. **Color the nucleus purple, and the nucleolus pink.**

The interior of the cell contains a jelly-like fluid substance called **cytoplasm**. **Color the cytoplasm yellow.** Toward the front of the cell is a star-like structure; the **contractile vacuole**. This organelle helps the cell remove excess water, and without it the euglena could absorb so much water that the cell would explode. **Color the contractile vacuole orange.**

### Reproduction

Euglena reproduce asexually.

**Answer the following questions**

1. Are euglena unicellular or muscular?
2. What kingdom do euglena belong to?
3. What organelle carries out photosynthesis?
4. On which end is the flagellum located?
5. Define autotrophic.
6. Define heterotrophic.
7. Describe the two ways in which the euglena get their nutrients.
8. What is the eyespot used for?
9. What is the function of the nucleus?
10. What is the function of the contractile vacuole? What would happen if the cell did not have this organelle?

