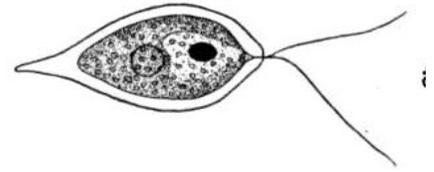


## Using a Light Microscope to Investigate Single Celled Organisms: *Paramecium* and *Chlamydomonas*

### Safety

- There are no specific safety hazards associated with this practical.
- Normal laboratory rules should be followed.



### Apparatus and Materials

- Organism cultures
- Microscope
- Microscope slides
- Coverslips



### Introduction

*Paramecium* is a unicellular organism that lives in freshwater. It feeds by ingesting small items of food through its oral groove. Food is digested inside the animal's body, inside a food vacuole. *Paramecium* is one of a group of organisms known as ciliates because they move in water using rows of tiny cilia, which beat to propel them along.

*Chlamydomonas* are green algae. *Chlamydomonas* are a common component of plankton and are often used by biologists to study pollution and photosynthesis.

### Directions

1. Find the pond water at your lab station.
2. Using the pipette, place a drop of pond water onto a microscope slide.
3. Add a coverslip.
4. Examine the slide with a microscope, being sure to follow proper microscope techniques of use.
5. Look for a *paramecium* and then a *chlamydomonas*. Here is an [identification guide to pond water organisms](#).
6. In the space above the table in your note packet, sketch one of each organism, a *paramecium* and then a *chlamydomonas*. Be sure to identify each species with a title.
7. In your notes, create a table that includes 1-2 sentences for each organism explaining how the cell is capable of performing **all 8 functions of life**. You will likely need to do some independent research about the organisms in order to complete the table. Start here with this [guidance information](#).

For example:

<b>FUNCTION OF LIFE</b>	<b>PARAMECIUM</b>	<b>CHLAMYDOMONAS</b>
Homeostasis	Contractile vacuoles remove water from the cell to keep the water content in the cell within a tolerable limit.	<i>For you to complete!</i>
Response to environment	<i>For you to complete!</i>	A light sensitive "eyespot" can sense bright light and the cell will respond by swimming towards it.

Click on the links below to watch a video of *paramecium* and *chlamydomonas* under the microscope. Use these videos to help you complete the table from above.

*Paramecium*: <https://www.youtube.com/watch?v=WFpBRfLtblo> & <https://www.youtube.com/watch?v=cGOMvWv5jyk>

*Chlamydomonas*: <https://www.youtube.com/watch?v=EMNFZnDt75c> & <https://www.youtube.com/watch?v=Md0PtdRxXvw>