

**OBJECTIVE:** a) Preparation of wet mount and observation of pond scum using bright field microscopy

**Materials:**

1. Bright Field Microscope 1
2. Microscope Slide and Cover Slip 1
3. Blotting paper
4. Forceps
5. Methylene Blue (preferably in a dropping bottle, .5% concentration) 1 drop
6. Sample: pond algae, scum under water cooler in petri dish or jar bottle

**Introduction**

Pond water refers to a standing body of water which may be natural or man made. Pond water contains a variety of plant and animal life. While some can be seen with the naked eye, others are too small and will require the use of a microscope to be able to properly observe them. Some of the organisms that can be found in pond water include; Arthropods, larvae, Bacteria, Protozoa and Algae

**Method:**

Gently stir the jar containing the water sample in order to ensure uniform distribution of organisms in the water.

Using a dropper, place two or three drops of pond water at the center of a clean, sterile microscopic slide.

Place a clean, sterile cover on top of the water drop (This should be done carefully, placing the slide on one edge at a 45 degree angle and gently laying it on top of the water to allow for even spreading of the water sample and remove bubbles)

Touch a piece of blotting paper on one side of the slide to absorb any excess water.

Place the slide on the microscope stage for observation.

Observe the slide under microscope by keeping different adjustment: Start from 4X objective lens and record observations

Move objective to 10X and record observations

To observe in detail, focus sample using 40X objective lens. Create contrast by adjusting condenser, light intensity to observe green algae and unstained cells that may be motile

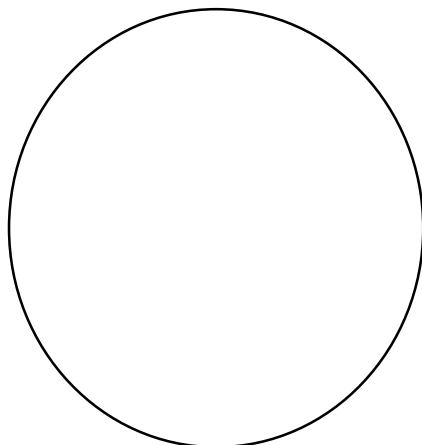
### **Basic Observations**

For this experiment, starting with low power, students will have the opportunity to see number of microorganisms both from the plant and animal kingdom.

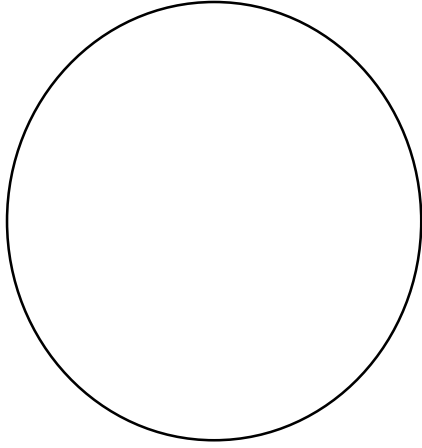
Although learning their names and their life cycle may interest the students, they can start by identifying them, comparing them with images on the blackboard or books and differentiating those that belong to the animal kingdom from those that belong to the plant kingdom.

### **Conclusion**

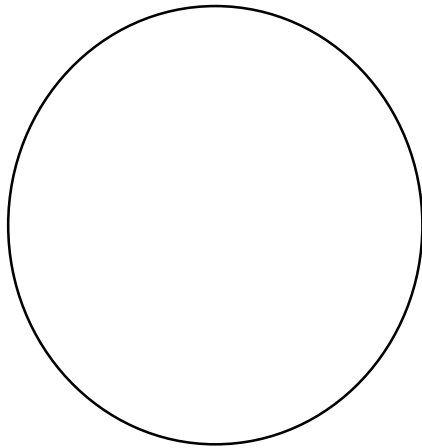
The primary goal here is for students to observe for themselves the different types of small organisms, which live in the pond and their diversity. Making rough sketches allows them to draw what they see and how they see them.



Observation of sample under 4X



Observation of sample under 10X



Observation of sample under 40X

Student will be able to observe Spirogyra, protozoa, insect larvae, Oscillatoria, Diatoms and Desmids in the samples.