

Observation of pond water for presence of micro-organisms

- What do you observe?

Though water appears clean to the naked eye, different kinds of minute organisms can be observed under the microscope. Figures of some common micro-organisms are given below. Identify the organisms observed in the slide by comparing with these figures

- What do we conclude?

Water contains several kinds of small organisms which are not visible to the naked eye but can be seen with the help of a Compound microscope. These organisms are called micro-organisms. Water, however, may also contain several organisms which are visible to the naked eye. They cannot be called micro-organisms.

- What more can we do?

- ✓ Micro-organisms thrive in almost every kind of environment– soil, water, air, hot springs, etc. Different habitats have different kinds of microorganisms. To understand the concept, the following activities can be performed.
- ✓ Collect some moist soil from the field in a beaker. Half-fill the beaker with water. Keep the beaker aside till the soil particles settle down. Take a drop of water on a micro-slide and observe under the microscope. You will observe some organisms which will be different from those observed in pond water.
- ✓ Place a drop of curd on a glass slide and observe under the Compound microscope. Curd contains a few bacteria, such as *Lactobacillus* and *Staphylococcus*.

Practice Questions:

1. Why are micro-organisms so called?
2. Is pond water fit for drinking? Give reason for your answer.
3. How do our ponds get polluted?
4. Name the four major groups of micro-organisms. Give two examples for each group.
5. Match the organisms given in Column 'A' with the group to which they belong given in Column 'B'.

Column 'A'

- a) Spirogyra
- b) Staphylococcus
- c) Paramecium
- d) Rhizopus

Column 'B'

- i) Fungi
- ii) Protozoa
- iii) Algae
- iv) Bacteria

6. Pick the odd one out and give reasons.
 - a) Amoeba, Euglena, Paramecium, Chlamydomonas
 - b) Penicillium, Aspergillus, Spirogyra, Yeast
 - c) Lactobacillus, Rhizopus, Staphylococcus, Rhizobium
7. State whether the following statements are true or false. If false, correct the statement.
 - a) Fungi are autotrophs while protozoa can be autotrophs or heterotrophs.
 - b) Rhizopus lives in the root nodules of leguminous plants and helps in nitrogen fixation.
 - c) Water may contain certain bacteria which cause harmful diseases.