

Unit : Handout :  
1 : 26

*Lesson 8: Pond Observations, Part 2*

**Purpose:** To observe changes in our classroom ponds.

---

**Guiding Question:** How do ponds change over time?

**Macro-Observations.** In the space below, draw a sketch of your pond (from the side). Label everything you can see: distinct layers, any organisms visible, living and non-living things, etc. See IBI Handout 15 for your initial pictures of your pond.

*Insert a top view and side view picture of the pond here.*

1. What do you observe? Write several sentences that describe your pond **and** how it has changed since you initially made it.

**Calculating Frond Growth Rate.** Now you will calculate the average daily increase of the *Lemna* fronds found in your pond. The data table below will assist you. Work with your group to determine *how* you will make the calculation.

Number of Fronds on Day 1	Number of Fronds at Final Count	Increase in Number of Fronds	Total Number of Days	Increase of Fronds Per Day
			104	

**More Information.** The population rate of the *Lemna* is similar to the population rate of bacteria. This is because both the *Lemna* and bacteria can reproduce asexually. When the *Lemna* reproduces asexually, a new “daughter” frond forms from the “mother” frond and eventually breaks away. This process continues: the more “mothers” there are, the more “daughters” can form. Thus, like we saw with bacteria populations, *Lemna* populations can increase exponentially: doubling in number very quickly.

**Micro-Observations.** Below is open space for you to insert drawings of any microorganisms you observe. For each drawing:

1. Draw the organism you observe at 100X or 400X.
2. Label any parts you can identify (use the protist handouts to help you).
3. Determine the name of the organism by using the handout at your table.
4. Be sure to follow the rules of drawing.

Name

Period

Date

---