

Name _____

Date _____

Characteristics of Living Things Lab

Objectives:

1. Observe living organisms and write down qualitative and quantitative observations for each organism found.
2. Observe any characteristics that make the living thing alive.
3. Find the approximate size of the organism.
4. Draw an accurate and detail diagram of the organism observed.

Procedure:

1. Using an eyedropper, transfer a drop of the sample of water onto a clean slide. Add a cover slip at a 45° angle onto the specimen. Observe the slide you prepared under a microscope under low power and then high power if needed.
2. Draw a diagram of all organisms that are living. If you are not sure if it is a living thing, ask the instructor.
3. Include in you diagrams:
 - a. Possible identification of the organism
 - b. Total magnification (ocular X objective)
 - c. Approximate size of the specimen (to calculate approximate size under low power: # of organisms that can fit across the field/1600um or for high power: # organisms that can fit across the field of view/400um
 - d. Add color to your diagram
4. Write detailed observations of each organism on the spaces provided.
5. Locate at least 4 different animals/protozoans and 2 different plants in the same water sample or another.
6. You may have to make several different slides to find these organisms. Keep trying!

Observations:

Fill in the detailed descriptions of your organisms below:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Questions: Answer the following in complete sentences.

1. List the life functions of living organisms below:

2. List all the life functions that you observed in the organisms that you viewed.

3. From what observations can you infer that some of these organisms expend energy? _____

4. What life functions would be difficult to observe in this type of investigation? Why?

5. Which two life functions might be used to distinguish between plant-like and animal-like organisms? Explain

6. What is wrong with using movement as a single way to determine if something is living or non-living?

Your Lab Report should include the following:

Title: Please place this in the beginning of the lab or as a separate cover page

Objective/purpose: State this clearly in complete sentences. Why did you do this lab? What is its purpose?

Diagrams: *Make sure you have included the following for each of the 6 diagrams:*

- Identification of organism
- Total magnification
- Approximate size of the specimen

Observations: Include detailed descriptions for each organism.

Questions: Answer questions 1-6 in complete sentences.

Conclusion: Explain how you determined if something was living or nonliving. What life functions do all organisms need to be considered living? Were there any adaptations that these organisms had for life in the water?