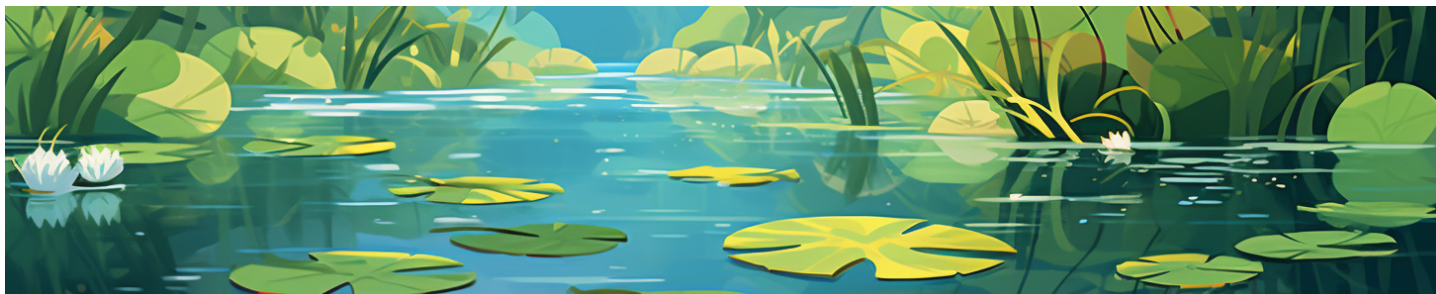


Investigation: What Organisms Are Found in Pond Water?



Questions:

- What kind of microorganisms live in pond water?
- Do ponds in different areas have different types of organisms?
- What is the connection between human activity and pond **biodiversity**?

Materials and Methods

Your instructor has collected two pond water samples from areas near your school. Each sample should be labeled with its location. Your task is to collect data on both pond samples using the equipment provided and record data.

1. Initial Observations

From the outside of the jar, describe the condition of the water, and any organisms you can see. Check to see if the water has an odor. Record this initial **qualitative data** on your pond samples. Describe the **turbidity** (or how clear the water is).

2. Testing the Waters

Use available equipment to gather **quantitative data** about the sample, such as temperature, pH, oxygen, and presence of nitrates. Water test kits may be available.

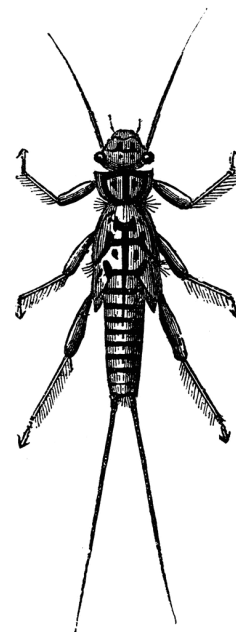
3. Identifying Organisms

Using magnifying glasses, stereoscopes and microscopes, identify as many organisms as you can in the two samples you are studying. This includes both plants, animals, and microorganisms.

[A Pond Identification Guide](#) can help to identify organisms living in the water.

Make sketches of organisms you see to include in your final report. You can even take photos. Include organisms you cannot identify.

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4. Organize Data

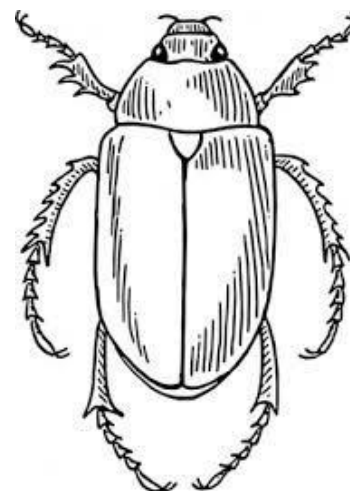
Create a chart to organize the data you have taken on the two samples, your chart may look something like the one shown below, though you may need to add fields for additional information.

	Sample 1	Sample 2
Initial Observations		
Temperature		
Organisms (Include sketch and IDs)		

5. Construct a Lab Report or Infographic

Scientists usually keep notebooks where they gather data and make observations. These notebooks are often messy and difficult to read. Lab notebooks are not what scientists publish. In the end, they must organize their data and summarize their findings in a form that can be published in science journals.

****Your task is to organize your data, observations, and sketches into a format that can be published and viewed by your instructor and classmates. The lab report is the traditional method, but many universities now accept graphical forms of publications (like an infographic.) Your lab report or infographic must also **include answers to the three questions at the beginning of this lab**. You may need to reference other sources.****



Grading Rubric

	1 pt	2 pts	3 pts	4 pts
Initial Observations of Samples	Very few observations included, not organized or easy to read	Some initial observations are included, somewhat organized	Both samples represented, describes water and plants, organized	Both samples are represented, rich language used to describe water and plants, well organized
Testing (Quantitative data)	Quantitative measures not included or poorly organized	Data includes some measures, organized	Data includes some quantitative measures, organized	Data includes many quantitative measures, such as temperature, pH, well organized
Organisms (Include sketch and IDs)	Very few organisms are included, no identifications or details	Some organisms are included and identified accurately	Many organisms are included, details and/or sketches are present, some are identified accurately	Many organisms are included, details and/or sketches are present, many are identified accurately
Summary	Essential questions are not answered accurately and no summary was attempted	Essential questions are not answered accurately, but a summary of the lab is included	Essential questions are answered, observations from lab are included as evidence for statements, some background research evident	Essential questions are answered accurately, observations from lab are included as evidence for statements, background research evident
Overall	Graphic is not well organized, many errors in grammar, hard to follow	Graphic or report is organized has some spelling or grammar errors	Graphic or report is organized minimal spelling or grammar errors	Graphic or report is well organized, easy to read, minimal spelling or grammar errors