

Title: Pond Microorganisms Lab

Observation: Different types of organisms live in different ecosystems.

Question (Problem): What types of microorganisms are found in pond water in a North Carolina pond?

Hypothesis: **If** samples from a pond ecosystem are examined under a microscope, **then**

Materials: (List the materials used in this experiment here.)

Procedure:

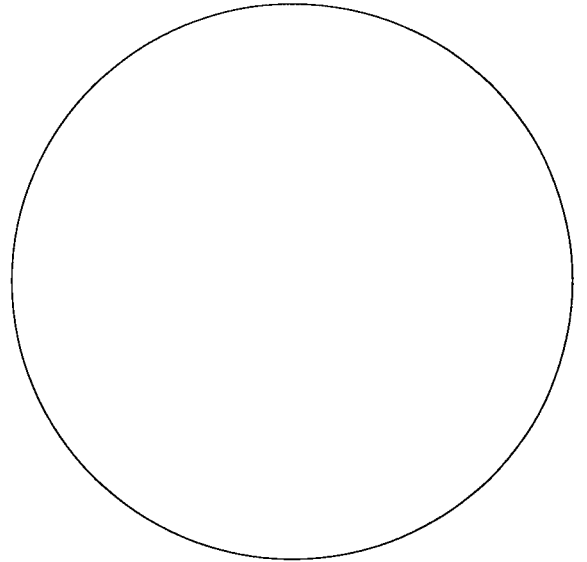
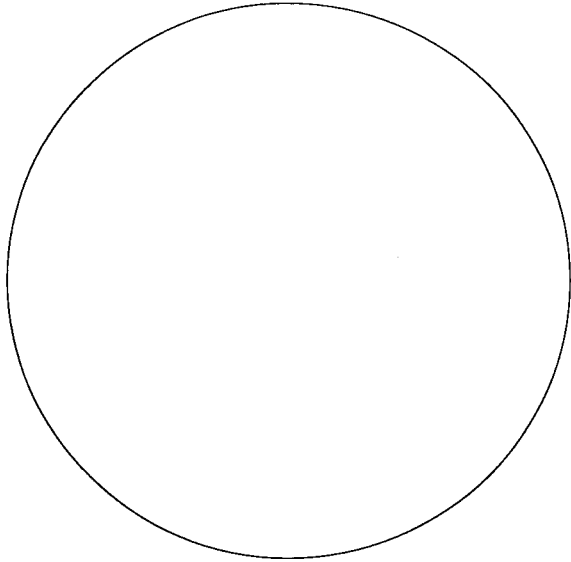
1. Collect a few drops of water from the bottom of your water sample using an eye dropper.
2. Place a drop on the center of the microscope slide.
3. Cover the slide with a cover slip by lowering the cover slip at an angle over the water drop in a manner that spreads out the water drop, but does not trap air bubbles.
4. Observe the prepared slide under the microscope.
5. Use the picture ID sheet to identify the organisms observed.
6. Draw a picture in a data table of each organism observed.
7. Write the name of the organism under the picture, if the organism can be identified.
8. Describe each organism using qualitative (adjectives) and quantitative (measurements and counts) terms.
9. Repeat steps 1 to 8 until enough organisms are found.

Results: (Describe what you observed. List the different types of organisms found and how many of each type of organism was found. Write a description of each organism (step 8).) Hint: A data table with a title and headings in each column is a great way to summarize your results. The title should describe the data. Your data table should include the following columns: Organism Type, Number Found, Picture, and Description. (The description should include size, color, shape, number of legs etc.). Use an extra sheet of paper for your table.

Analysis: *Do not answer this section until we have used the internet to learn more about aquatic microorganisms.* Explain what the results mean. (How many different types of organisms were found? Based on the types of organisms found, what do you think are the most important organisms found in your pond water? Were all the organisms found consumers?)

Conclusion: Answer the “Question”. Was your hypothesis correct? Explain why or why not.

Questions/Suggestions for future work: How can this experiment be improved? What would be a good experiment to do to follow up on this experiment? Did this experiment make you wonder about something related to your results?



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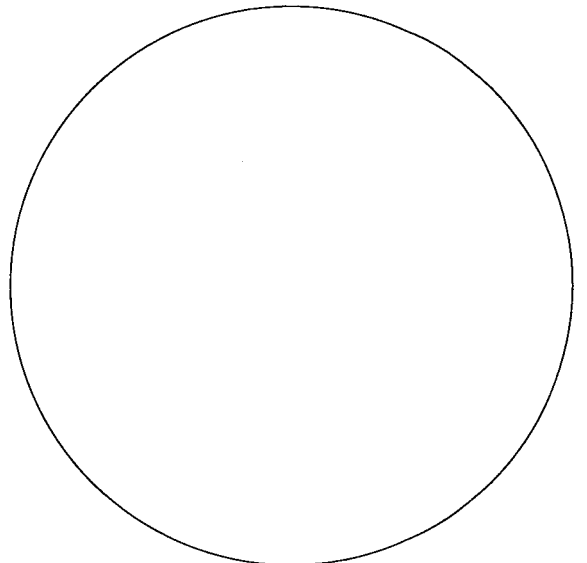
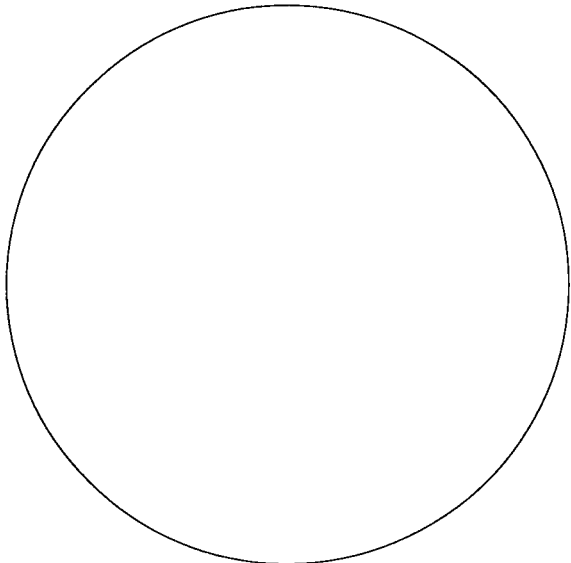
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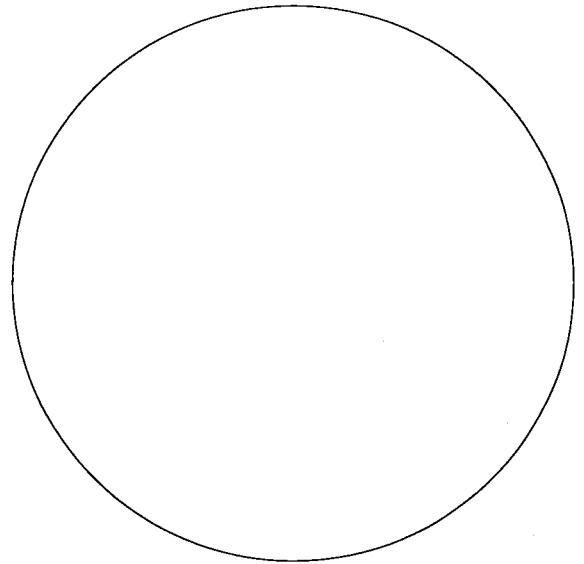
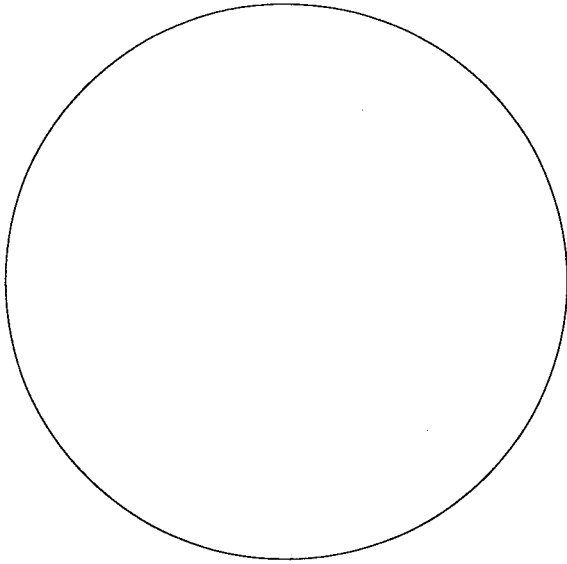
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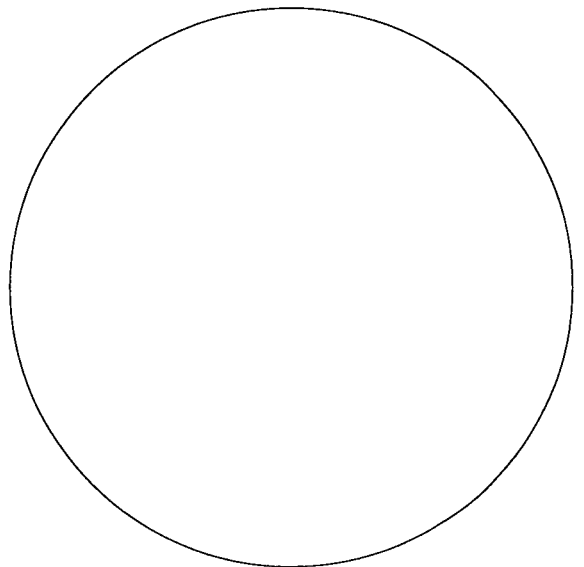
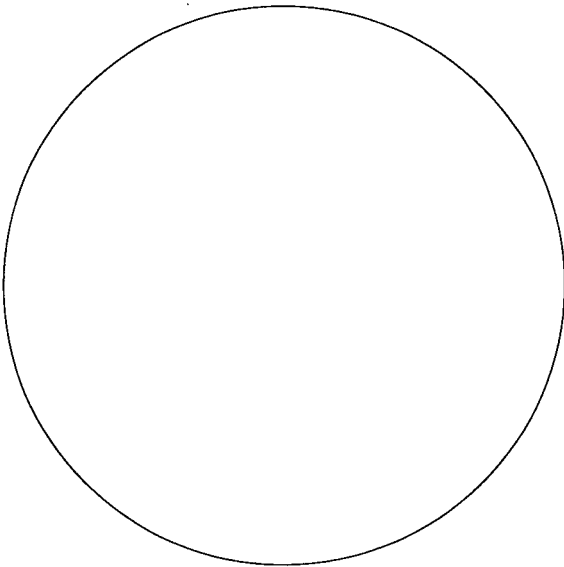
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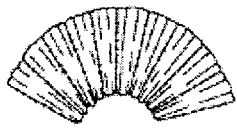
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Pond Life Identification

Diatoms – golden brown; variety of other shapes; glass-like cell wall



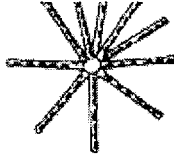
Meridion



Pinnularia



Navicula



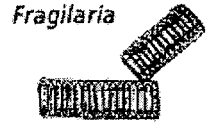
Asterionella



Tabellaria



Gomphonema

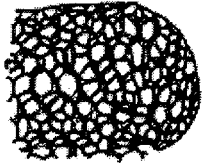


Fragilaria



Surirella

Algae – green



Hydrodictyon



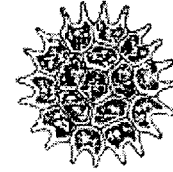
Rhizoclonium



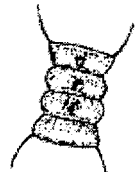
Chlamydomonas



Chilomonas



Pediastrum



Scenedesmus



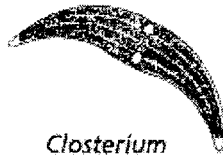
Zygnema



Cosmarium



Micrasterius



Closterium

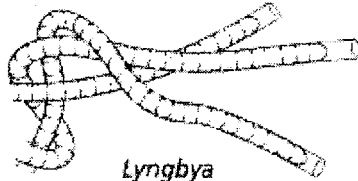


Euglena



Spirogyra

Single celled organisms – attached or swimming; variety of colors



Lyngbya



Amoeba



Stylonychia



Vorticella



Tetrahymena



Stentor



Paramecium



Anabaena

Larger Organisms – Usually visible with naked eye



Rotifers



Macrocylops



Daphnia



Bosmina



Ostracod
(Brown bi-valve)



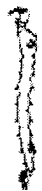
Helisoma



Campeloma



mosquito larva



Chaoborus
("phantom larva")



Gammarus
(amphipod)



damselfly nymph



Gerris
(water strider)



Hydracarina
(water mite)



caddis fly larva



whirligig beetle



Planaria



(contracted)



(elongated)

Spirostomum
(contracts when startled)



Roundworm
(Nematode)



Annelid
(segmented)



dragonfly nymphs