



North Pond Restoration: Microscopic Aquatic Life

What Lives in Your Pond?

One of the things environmentalists look at when thinking about pond health is what is living in the water. We often think of fish and frogs and other large animals, but don't often think of tiny creatures like dragonfly larvae or water striders, or tiny floating plants like duckweed. As a part of the Lincoln Park Conservancy's work to improve the North Pond's environment we want to make the pond sustainable (learn more at <http://lincolnparkconservancy.org/the-campaign-for-north-pond/>). That includes thinking about all the plants and animals that lives in the water.

The basic activity of this program, making observations, is appropriate for all ages. For older or more engaged children, adults can guide them to learn more about the pond life they observe. For younger children, or children without much experience, simply making observations about the world, drawing conclusions, and asking "why?" can be enough. For all children, giving them chances to observe the world and make discoveries both on their own and with a parent encourages this love of learning and the natural world.

Materials:

Clear glass jars for water samples, markers to label the jars, paper and pencils to make observations. Optional: glass slide, eye dropper, magnifying glass and/or microscope (cell phone with zoom function can also work in a pinch).

Guiding Questions: What senses can you use to describe the water? What do you see in the water? Should you taste the water? Why not? Is there anything in the water? Describe or draw what you see.

Directions:

- Next time you are on a walk near a local pond, scoop up some of the pond water into clean portable container.
- When you get home empty your pond water into a jar or other clear container, glass is best.
- Begin to make observations. What senses can you use to describe the water? What words can you use to describe how it looks? Is it cloudy or clear? What color is it? How does it sound? How does it feel? Is it warm or cold? How does the water smell? Should you taste the water? Why not? What do you see in the water? Are there insects or plants in the water? What things are moving? How are they moving? Describe or draw what you see.
- After a while, any sediment will settle out of the pond water. Take some of the water and look at it up close using a magnifying glass or microscope. Describe or draw what you see. If you see animals or plants, consider learning more about them using an aquatic life identification sheet, or taking a photo and doing an image search.



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- Think about going back and taking multiple samples. Do different parts of the pond have different creatures or plants? Are sunny areas different from shady ones? Sample different ponds, rivers, and other sources of water. If you find puddles on your street, or ponds that are there in the spring but not later in the summer, sample them. How does your tap water compare with the pond water? What's the same? What's different?
- How are different sources of water similar or different? Are there any things that are consistent and necessary for life in natural water systems?

Explore more:

<http://www.stirthewonder.com/inspecting-pond-water/>

<https://www.pre-kpages.com/science-kids-observing-pond-water/>

<http://sciencenetlinks.com/lessons/pond-2-life-in-a-drop-of-pond-water/>

https://www.rbkc.gov.uk/pdf/pond_pack_2010.pdf

<https://runwildmychild.com/nature-study-exploring-ponds-with-kids/>

<https://www.outdoors.org/articles/amc-outdoors/ponding-easy-summer-science-with-kids>

<https://www.sciencekids.co.nz/experiments/microscopiccreatures.html>

<https://www.backwoodsmama.com/2019/05/a-beginners-guide-to-pond-dipping-with-kids.html>

<https://nourishingmyscholar.com/at-home-water-testing/>

Learn more about aquatic life:

<https://microscope-microscope.org/pond-water-critters-protozoan-guide/>

<https://www.msucleus.org/watersheds/mission/plankton.pdf>

<http://www.westerville.k12.oh.us/userfiles/4170/Classes/85127/pond%20water%20identification.pdf?id=551181>

http://www.funsci.com/fun3_en/guide/guide1/micro1_en.htm

If you want to get a Microscope, here are tips to get you started:

<https://www.microscopeworld.com/p-3463-what-kids-microscope-should-i-buy-for-my-child.aspx>

<http://www.microbehunter.com/buying-microscopes-for-children/>

<https://www.pandiapress.com/microscopes-kids/>

<https://www.microscope.com/12-best-microscope-for-kids>

<https://www.imaginationward.com/best-microscopes-for-kids/>



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Water Sampling Images from the Web

