

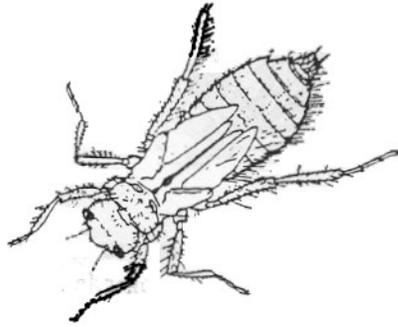
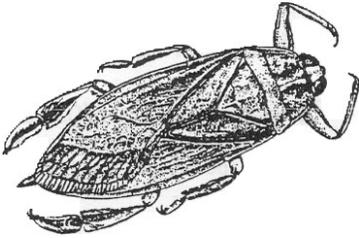
POUR - A - POND ACTIVITY

Students Will:

Discover the tremendous diversity of aquatic organisms.

Become familiar with the organisms in a vernal pond.

Learn the feeding relationships and energy flow in a vernal pond



Science Objectives:

Compare and classify organisms using observable characteristics

Discover the life cycles of familiar organisms

Identify specific organisms as part of a food chain or web and describe their feeding relationships.

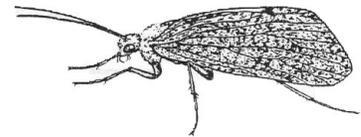
Learn how organisms are adapted to survive in their environment.

BACKGROUND INFORMATION

Wetlands produce more total biomass per acre than any other ecosystem. Most elementary school students have very limited knowledge of the life forms found in lakes and ponds. The “pour-a-pond” activity provides a unique way for students to discover and study aquatic life in a classroom setting. In the Midwest, spring (late March through May) is the best time to study aquatic ecosystems, but it is possible to collect and study aquatic organisms any time the surface waters are not frozen.

Recommended Supplies and Materials

1. Three 5 gallon pails and lids. Cat # M00212 @ \$6.00 ea. + shipping. Dadant and Sons
550 E. Main
Pottersville, MI 48876 Ph. 517-645-7629
2. Fine mesh nylon collecting net Model BFN-42-Vinal @ \$11.00ea. + ship. Ed Cummings Inc.
2305 Branch Rd.
Flint, MI 48506, Ph 810-736-0130
3. One Hula Hoop for each 4 students
4. One large, white plastic garbage bag per hula hoop.
5. A “Pond Watchers Guide” and a magnifying glass for each student.
6. One large measuring cup, water pitcher or small plastic pail.
7. One piece heavy plastic sheeting (3-4 mill) per hula hoop. Must be at least 12” in diameter larger than hula hoop.



Collecting Pails, and a Milk Jug with top cut out for pouring the ponds

Pond Set-up Sequence



1. Place plastic bag on floor or level surface



2. Place hula hoop on top of plastic bag.



3. Place numbered card in center



4. Place plastic sheeting on top of hula hoop



5. Add water and then pond critters.



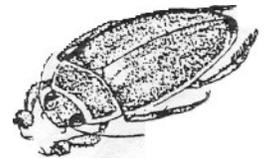
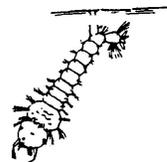
6. Add spoons, magnifiers and Pond Guides

COLLECTING

Aquatic organisms can be found in permanent bodies of water, but are most abundant, include the greatest diversity, and are easiest to collect in shallow, temporary pools in fields and woodlands and flooded roadside ditches. These temporary habitats are most abundant in late March through May in the Midwest. There are three types of organisms in these vernal pools; free swimmers, clingers and bottom crawlers. All can be captured without having to see them first. Here is how to catch them. Once you find a suitable collecting location, fill your 5 gallon collecting pails with clean, clear water from the site.



1. Catch free swimming pond organisms by sweeping the net back and forth through the open water. The organisms will accumulate in the bottom of the net. Next hold your net over one of the collecting pails, turn it inside out and dip the tip into water to release all the animals. Repeat the process until you have the desired number of animals.
2. Catch bottom crawlers by using the net like a rake. Scrape up bottom debris and place it on a white garbage bag on the ground. Pick through the mud and leaves and watch for things to move or wiggle. Pick them up with your fingers or a spoon and place them into the pail. Also place a **small amount** of bottom debris into the pail.
3. Catch organisms that cling to floating plants and grasses by sweeping the net under the surface with the opening facing up. When disturbed the clingers will instinctively dive to the bottom and right into your open net. Use the same method to put them in the pail as with the free swimmers.
4. As different ponds contain different organisms, you may wish to visit several sites. With practice you should be able to collect all you need in an hour. Three five gallon pails of water and organisms should be enough to set up six pour-a-ponds for a class of 25-30 students.



SET UP PROCEDURE

This is one of the few activities that works equally well with students from K-12. The younger they are, the less use they make of the “Pond Watcher’s Guide” and other supporting materials and equipment, however.

1. If pour-a-pond is to be done in a classroom, have the students moved their desks to one side of the room to create an open space. If the floor is carpeted, put down a large tarp to catch any spills.
2. Spread out the white plastic garbage bags at widely spaced locations for each pour-a-pond. Place a hula hoop on top of each bag. Number the ponds one through n.
3. With a small container dip water from the pails and pour it carefully into the ponds until each hoop is nearly full. Each pond will now contain water and a few organisms. The majority of the organisms will still be in the pails.
4. Pour some of the remaining water from one of the collecting pails through the net and into another pail. This will trap additional organisms without adding water to the ponds. Invert the net over one of the ponds, dip the end into the water which will release all the trapped organisms. Repeat the process with each pond until all the organisms have been transferred.

TEACHING PROCEDURE

1. Number the students off according to how many ponds you have. Send the students into the room to find the pond that matches their number.
2. Show the students how to use the spoons and magnifiers. Students are to search the pond for organisms and match them with those illustrated in the “Pond Watcher’s Guide.” Have the students or a helper make a list of what they found.
3. After ten minutes rotate the students to the pond with the next higher number. Repeat the process until each group has visited all the ponds.
4. All the ponds need not contain the same animals. And if they don’t, there will be something new to see in each pond.
5. At the end of the exercise, make a list of all the organisms found. You may choose to discuss them briefly and share some natural history information about them.

Another Great Resource!!!
www.vernalpool.org



Children eagerly explore the ponds both above and below



CLEAN UP PROCEDURE

1. Picking up the pour-a-ponds is a little tricky, therefore **I DO NOT** recommend that students help. Most will not have the patience to avoid a spill. Carefully pick up the edges and corners of the plastic sheet and bring them together to form a bag with the pond water and critters in the bottom. Make sure there are no loose ends to avoid water leaking onto the floor.
2. Carefully pick up the bag and place it into the collecting pail. Once the plastic is in the pail, you may release an edge and slowly pull the plastic out of the pail. The water and critters will be left behind. Repeat the process with each pond.
3. After school, return the water and organisms that are not going to be used for study to the ponds from which they came.

EXTENSIONS

1. To allow the students to study the pond organisms over a longer period, take the water from one of the pails and fill an aquarium. Include pond organisms as well, but don’t put in too many, as there may not be sufficient oxygen to support them. Place a bubbler in the aquarium to keep it oxygenated.
2. The aquarium can be kept this way for several days. Students may be able to observe life cycle changes in some organisms, and it will become clear who are the predators and who are prey. Have each student research their favorite animal.

Other Resources

Pond Watcher’s Guide

Massachusetts Audubon Society, Inc.
ISBN 0-932691-14-5

Pond Life

Golden Press
ISBN 0-307-24017-7

Creepy Crawlies and the Scientific Method

ISBN 1-55591-118-8