WHAT LIVES HERE?

BIO KEY

Aquatic Survey
Plant Investigation
Animal Investigation

OVERVIEW

The youngsters search for and identify aquatic plants and animals.

BACKGROUND

Water is an alien environment for humans. We are air-breathing, terrestrial beings who venture into the water only occasionally. The only way we can spend any length of time underwater is to bring our own air supply with us. Perhaps the alien nature of water and the mystique of its inhabitants account for the special fascination many people have for aquatic life. In any case, people of all ages enjoy exploring an aquatic site and discovering what lives there.

This activity may be used as an introduction to the life of any aquatic system: pond, lake, stream, river, or seashore.

CHALLENGE: FIND AND INVESTIGATE PLANTS AND ANIMALS THAT LIVE IN WATER.

Published by
Delta Education
Nashua, NH

MATERIALS

For each buddy team:
2 dip nets*
2 observation trays*
1 magnifying lens* or bug box*
1 clear plastic cup*
1 *OBIS Pond Guide** or other freshwater guide

For the group:
1 data board* and marking pen*
1 copy of the "Aquatic Observation Aids" Equipment Card*

*Available from Delta Education.


TREE FROG

PREPARATION

Group Size. This activity is suitable for any size group. For a group with more than twenty youngsters, have someone help you conduct the activity.

Time. Setting a time limit for this activity is difficult because youngsters will happily spend several hours searching for aquatic organisms. Plan on one or more activity periods totaling one to two hours.

Site. Select an aquatic site (freshwater or marine) that is not too steep or slippery. Make sure the site contains a variety of aquatic animals and plants. (You can test with a dip net.) Choose a level area in the site where the kids can gather to share observations.

Materials. See the "Aquatic Observation Aids" Equipment Card for instructions on making and using the equipment. Practice using the equipment so you can demonstrate its use.

Safety. When working around the water, use the buddy system. (See the "Safety" section of the *Leader's Survival Kit* folio.)

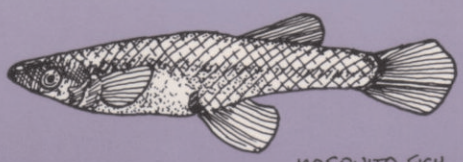
Conservation. Establish rules of procedure to promote respect for the activity-site environment. (See the *Leader's Survival Kit.*)

ACTION

1. Announce to the youngsters that they will be exploring the water in the site to find out what lives there.

2. Point out the boundaries of the activity site. Explain the importance of the buddy system, and divide the group into buddy teams.

3. Show the kids how to use a dip net and observation tray for capturing and observing organisms. Gently sweep the net along the bottom of the pond (or whatever body of water you are using), through any vegetation, and along the sides of rocks and other objects. Explain to the youngsters that this technique is easier than trying to net just the organisms they can see. Scoop up some vegetation or bottom sediment and strain out any mud by repeatedly dipping the net in the water. Transfer any vegetation and critters you caught to an observation tray filled with water from the pond.


MOSQUITO FISH

Developed by
Outdoor Biology Instructional Strategies
Lawrence Hall of Science
University of California
Berkeley, California 94720

4. Give each youngster a dip net and an observation tray. Challenge the teams to find as many different kinds of plants and animals as they can. (One of each kind is enough.) Remind the youngsters to stay with their buddies at all times.

5. As the teams search, remind them to try all of the different areas of the pond: the surface, the sides, the bottom, and the vegetation in open water.

6. After the youngsters have searched for about thirty minutes, bring out the plastic cups and magnifiers as aids for observing small organisms. If you are working at a freshwater site, give each team an *OBIS Pond Guide* (or other freshwater guide). Ask the youngsters to use the guides to identify the organisms they have found. (If you prefer, you can challenge the youngsters to come up with their own organism names by asking them to think of a name that describes what the organism looks like or does.)

7. When ten to fifteen minutes remain in the period, gather the teams at the discussion area to share what they have found. One way to do this is to arrange the observation trays in a large circle so the youngsters can walk around them.

8. After everyone has had a chance to look over the contents of the trays, ask the group to help you list on the data board all the plants and animals that were found. You may need to help the youngsters identify or come up with descriptive names for some of the organisms.

DRAGONFLY NYMPH

- Who found a plant or animal that nobody else found? (Place unusual or uncommon plants or animals in plastic cups filled with water for others to see.)

2. At this point, explain that any living thing, plant or animal, is an ***organism***. Write "organism" on the data board so everyone can see it.

- How many different kinds of organisms did you find today?

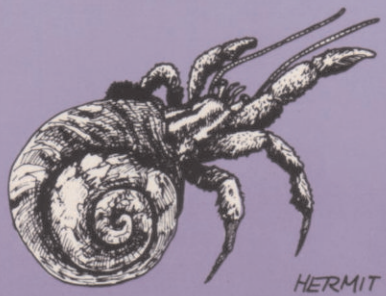
3. Ask the youngsters which organism they would like to be if they could live in the water for a day. Why?

Note: Have the teams return their organisms to the water where they were found.

NET CONTENTS

1. Ask the youngsters:

- Where did you find most of the animals? Most of the plants?
- Which types of plants and animals were caught most often? Which ones were the hardest to find?



HERMIT CRAB

WHAT LIVES HERE?

BIO KEY

Aquatic Survey
Plant Investigation
Animal Investigation

Published by
Delta Education
Nashua, NH

BRANCHING OUT

1. Repeat the organism search at the same site but during a different season. Compare the results of both searches.

2. Conduct an organism search in a different kind of aquatic site. Compare the organisms that live in the two sites.

Developed by
Outdoor Biology Instructional Strategies
Lawrence Hall of Science
University of California
Berkeley, California 94720

AQUATIC OBSERVATION AIDS:
For Aquatic Activities

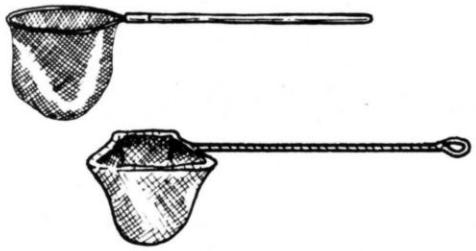
Equipment Card Side 1

Bug Boxes

A bug box is a small, clear plastic box with a magnifying lens for a lid. To use the bug box, place an object or organism in the box and replace the lid to magnify the contents. When exposed to direct sunlight a closed bug box heats up rapidly, so release organisms promptly after observing them. The lid can also be used separately as a magnifying lens.

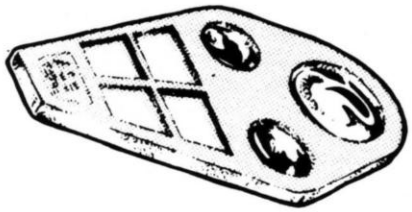
Dip Nets

Nets can either be made or bought. Aquarium nets work fine. You may want to extend the reach of an aquarium net by attaching a dowel, a stick, or a similar extension to the handle. A gradual, gentle scoop of the net is usually more successful and less damaging to organisms than a sudden, violent scooping motion. To prevent eye accidents, ask that the nets never be raised above shoulder level.



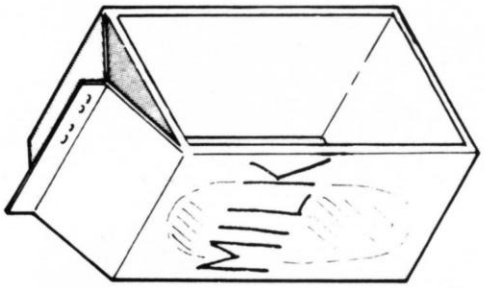
Magnifying Lenses

To use a magnifying lens, hold the lens close to one eye and move either your head or the object back and forth until you can see the object clearly.

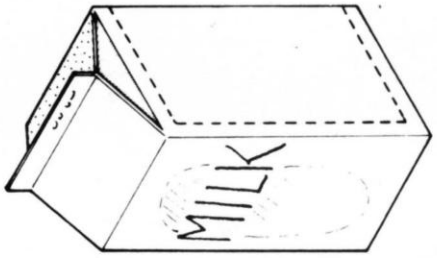


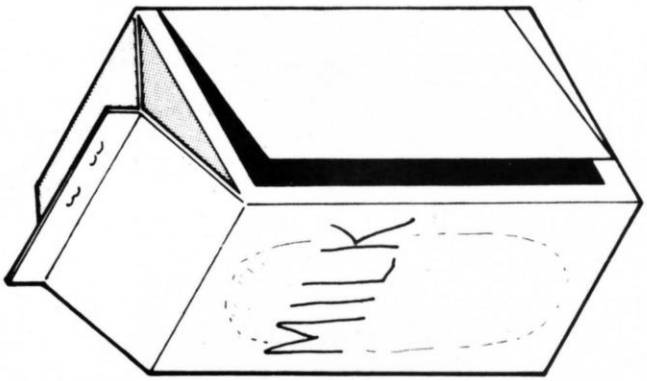
Observation Tray

Any container that will hold water can serve as an observation tray. Containers with light-colored bottoms are best for easy viewing of organisms that have been added. Half-gallon milk cartons can be made into deluxe observation trays. To make one, staple the pouring spout closed and cut out the carton wall on the same side as the stapled pouring spout.



To make a hinged-top observation tray, just cut along three sides (two short and one long) of the carton wall on the same side as the stapled spout.



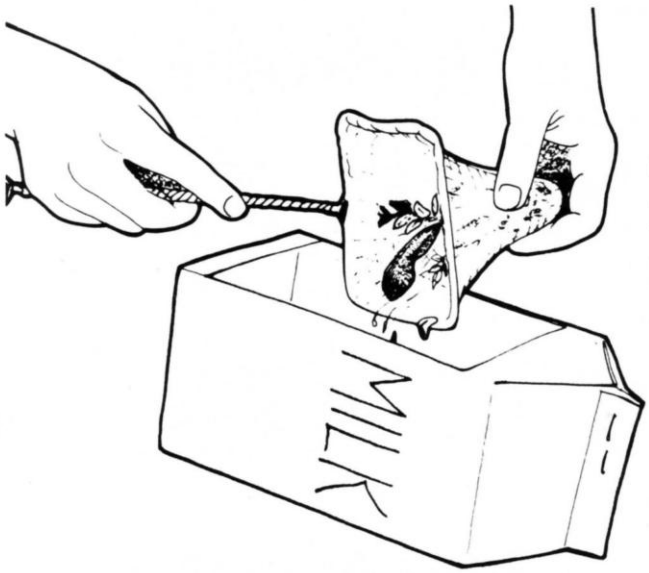


Published by
DELTA EDUCATION

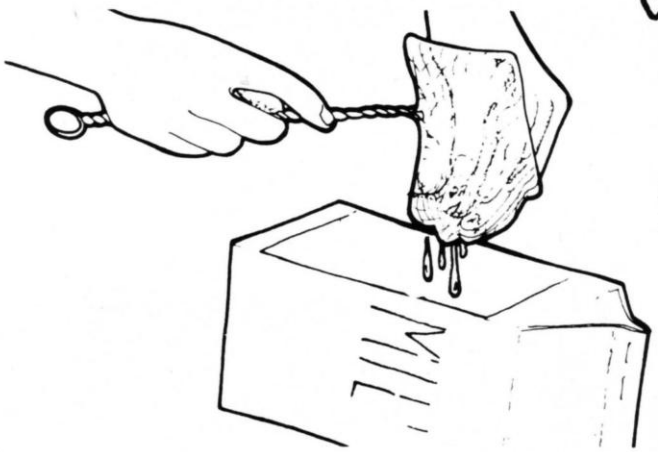
AQUATIC OBSERVATION AIDS:
For Aquatic Activities

Equipment Card 2 Side 2

Transferring critters to observation trays. When using a net to transfer critters, first swish the net through the water without releasing the organisms. (You can use the pond or stream you are investigating.) The rinsing removes any sediment you may have netted. Fill your observation tray about one-half full of water (preferably water from the organism site). Hold the net hoop over the tray,



turn the net inside out, and dip the net bag into the water in the tray.

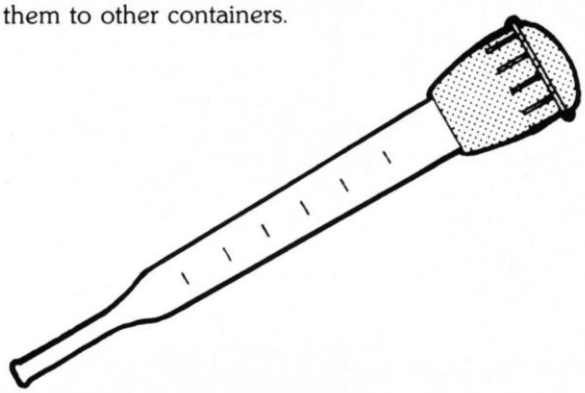


This will release netted organisms into the tray.

Spoons and Clear Plastic Cups

Spoons and cups are useful for transporting tiny organisms and observing them at a close range.

Simply dip up tiny organisms with a spoon or cup and place the organisms in a container partially filled with clear water. Turkey basters are also useful for sucking up tiny organisms and transferring them to other containers.



Note: All of these aids are available from Delta Education.

Published by
DELTA EDUCATION