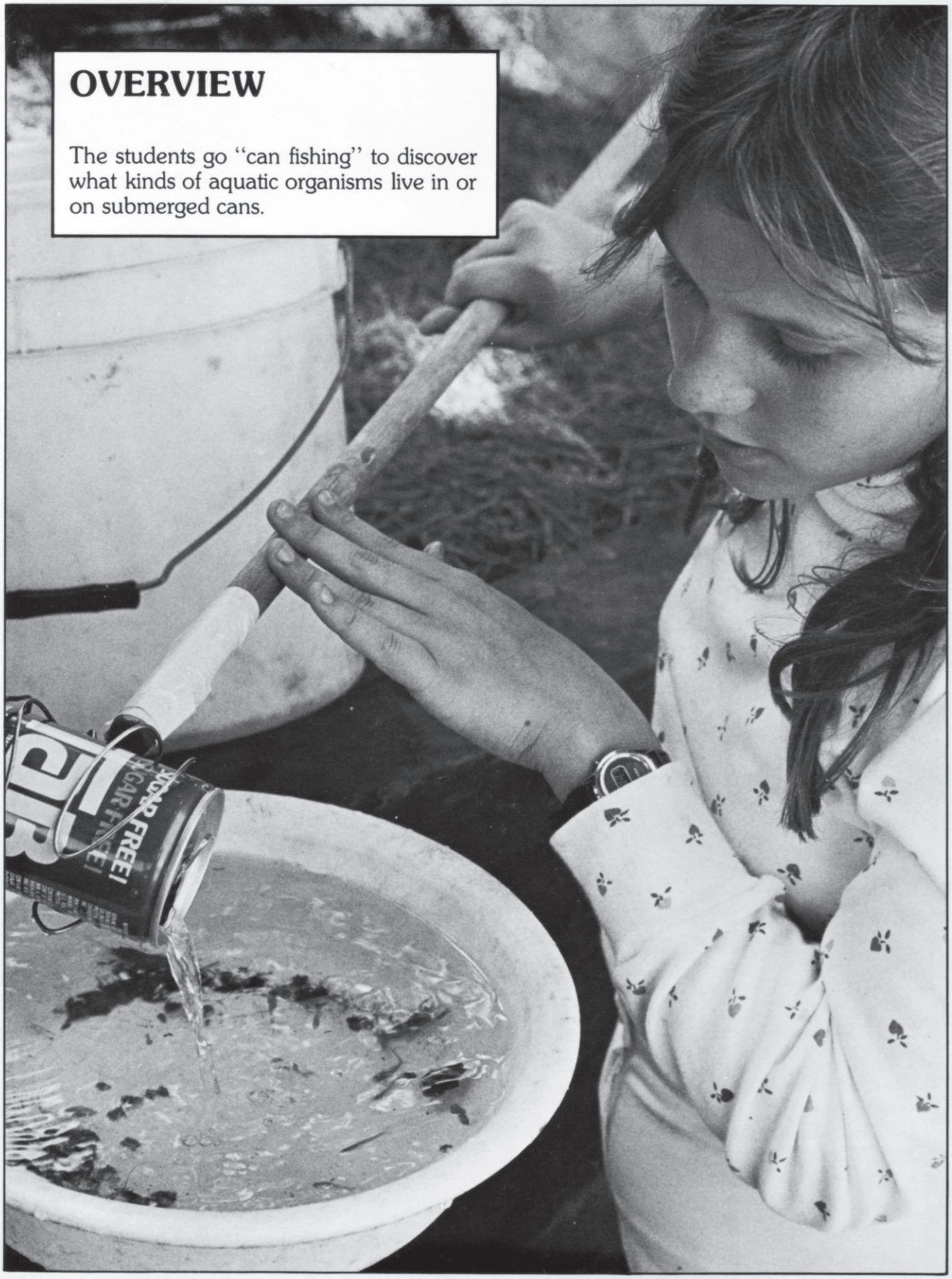
CAN FISHING

BIO KEY

Aquatic Animals
Habitat
Litter

OVERVIEW

The students go "can fishing" to discover what kinds of aquatic organisms live in or on submerged cans.



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BACKGROUND

Recreation areas are often particularly hard hit by litterbugs. Beaches and waterfronts are no exception. Not only are the shores usually strewn with litter left by leisure seekers, but lake and reservoir bottoms are frequently dotted with beer and soda cans and bottles.

Interestingly enough, discarded cans and bottles often become underwater homes for a variety of aquatic animals, such as minnows, crayfish, snails, scuds, and small catfish. Most animals are particularly vulnerable to predation during their early development. The narrow openings of cans and bottles can exclude potential predators and improve a young animal's chances for survival. Discovering the aquatic animals that live in discarded cans and bottles in your area can be a fascinating activity.

You can retrieve submerged cans in a variety of ways: pick them up by hand, use a long-handled net, "fish" with a magnet on a line, or snare the cans with an OBIS Can Grabber. (See the "OBIS Can Grabber" Equipment Card.) *Can Fishing* can be conducted from shore, a dock, or a boat. If you plan to can-fish from boats, you should have at least one experienced boat-handler in each boat and life jackets for everyone. If you are a certified diver and each group member is a strong swimmer who has been trained in the use of mask and snorkel, you can snorkel for cans in clear water.

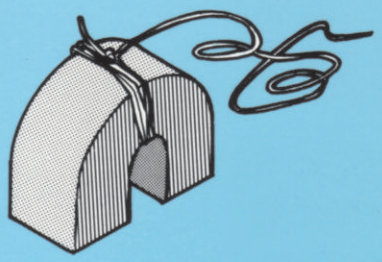
CHALLENGE: DISCOVER WHAT KINDS OF AQUATIC ORGANISMS LIVE IN OR ON SUBMERGED CANS.

MATERIALS

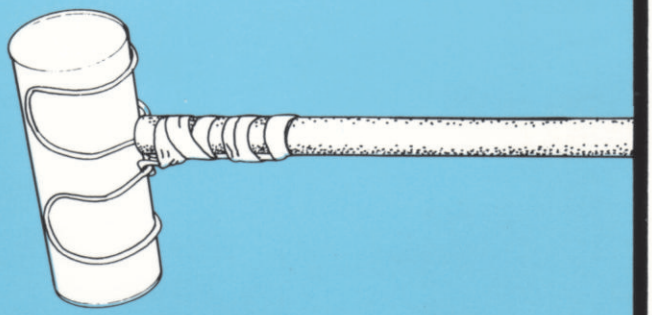
For each buddy team:

1 pair of cotton work gloves*

1 half-gallon milk carton or light-colored basin*
1 large bucket*
1 dip net*
1 of the following:
- 1 strong magnet* tied to 5 to 10 meters of heavy twine* or fishing line*†



- 1 long-handled net* (See the "Aquatic Observation Aids" Equipment Card.)†
- 1 OBIS Can Grabber (See the "OBIS Can Grabber" Equipment Card.)†



For the group:

bug boxes* or hand lenses*
copies of the OBIS *Pond Guide** for use at freshwater sites
1 "OBIS Can Grabber" Equipment Card*
1 "Aquatic Observation Aids" Equipment Card*

* Available from Delta Education.
† See the "Preparation" section.

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CAN FISHING

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Habitat
Litter

PREPARATION

Group Size. This activity works best with small groups of up to twelve youngsters.

Time. Plan on sixty to ninety minutes for this activity.

Site. Choose a lake, pond, reservoir, or bay that contains *lots* of submerged cans. This activity is not suitable for fast running streams or rivers. Working at a site with clear water will increase your can-fishing success because the participants will be able to spot submerged cans from the surface. Where the water is not clear, check beforehand for submerged cans with a magnet on a piece of twine. The site should be small enough to permit easy supervision of the group. If necessary, obtain permission to use the site.

Equipment. Your choice of can-fishing rigs will depend on several factors. The magnet is effective when "fishing" from the shore, a boat, or a dock, but will not work on aluminum cans. For those, you will need an OBIS Can Grabber or a net. On the other hand, the grabber and the net are most effective when the submerged cans are visible from the surface. After selecting your site, practice with the various rigs to determine which is best for your group.

Safety. When working around the water, use the buddy system. (See the *Leader's Survival Kit* folio.) Follow boating safety procedures if you fish from a boat. The youngsters should wear gloves when handling the cans.

Take 'Em Back Alive! Shelter all aquatic animals from direct sunlight until you return them to the water at the end of the activity.

ACTION

1. Divide the group into teams of two, and explain the buddy system.

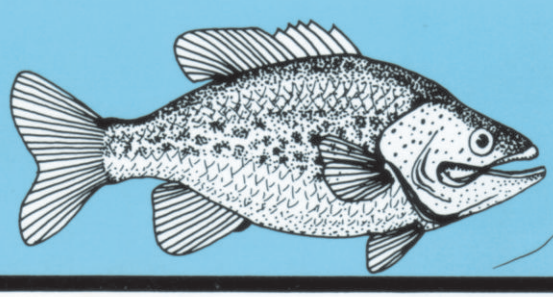
2. Point out the boundaries of the site.

3. Demonstrate the can-fishing methods your group is to use. Then go over the following procedure. The youngsters should:

- try to bring the cans or bottles up so that the contents do not spill out.
- pour the contents of the retrieved cans through a dip net, letting the water fall back into the lake or pond.
- carefully transfer any aquatic organisms in the net into a container of clear water.
- place the empty cans in the bucket of water.

4. Hand out the can-fishing gear. Challenge the teams to grab as many cans as possible and to discover what kinds of aquatic organisms live on or in submerged cans.

5. Move from team to team offering assistance when needed.



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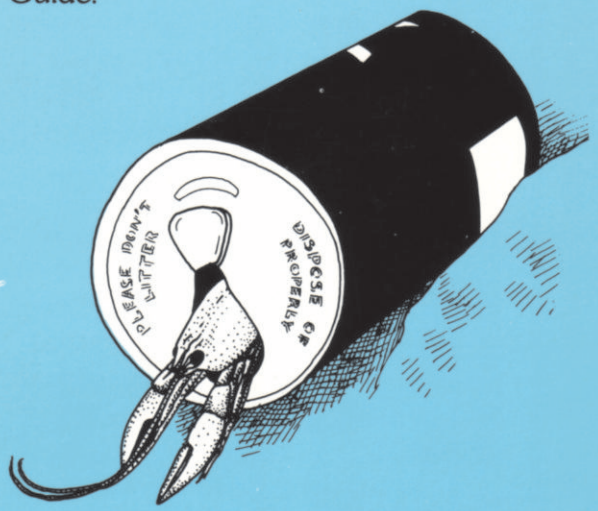
6. When about fifteen minutes remain in the activity period, call all the teams together and let them share their can catches. Distribute the bug boxes, hand lenses, and copies of the OBIS *Pond Guide*.



CANDID THOUGHTS

1. Ask the youngsters:

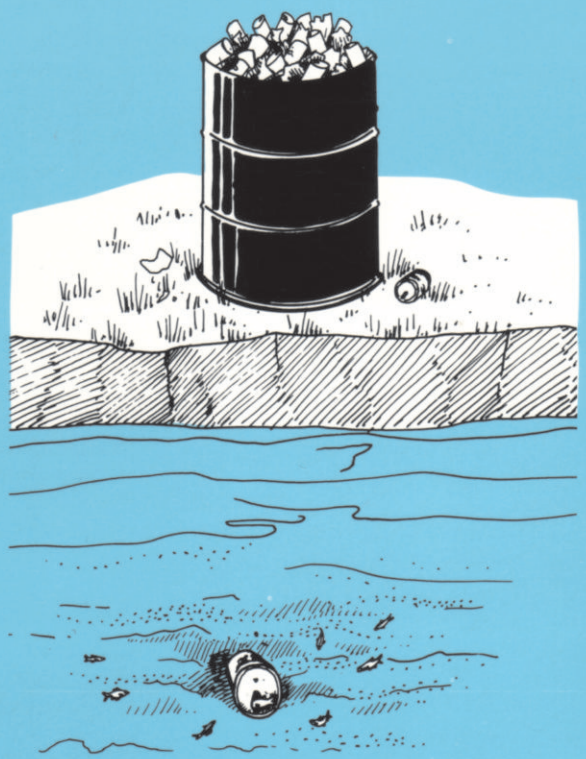
- What aquatic animals did you find living in or on the cans or bottles?
- Were there no animals at all on some cans? Why might that be?
- What advantages might a can offer as a home for certain animals? What disadvantages?

2. Tell the youngsters that the place where an organism lives is called its ***habitat***. Ask the youngsters to think of ways people reduce available plant and animal habitats (e.g. clear-cutting of forests, filling in bays or marshes, turning open space into new buildings or roads, and polluting). Ask the group to give examples of how people might improve or increase plant and animal habitats (e.g. building artificial reefs, cleaning up pollution, and letting certain areas revert to a more natural state).

3. Return the organisms to the water near the areas where they were found.

LITTER OR HABITAT

Tell the kids that they have a problem to solve. They now know that some organisms use submerged cans as homes. The problem to solve is whether the youngsters should dispose of the cans they collected as litter, or return the cans to the water for animal homes. A good question to start the discussion is: "If the cans were removed, where might the organisms live?" Have the teams search for organisms living in or on natural materials before making a decision. (See the "Branching Out" section.) Let the kids make their own decision concerning the final resting place of the cans, and go along with that decision.



BRANCHING OUT

Search for organisms that live on or in natural materials. Do any of the can organisms also live on or in natural materials?

Can Fishing
OBIS CAN GRABBER
Equipment Card

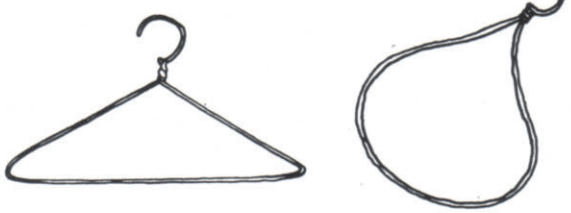
MATERIALS:

1 wire coat hanger*
1 pole* (a broom handle or wooden dowel one to two meters long)
1 roll of masking tape* or filament tape*
1 empty 12-ounce can

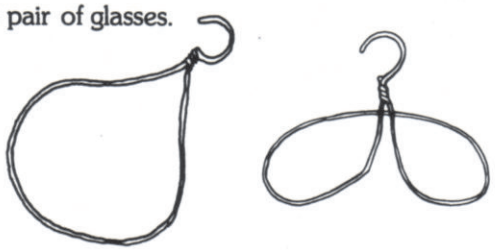
* Available from Delta Education.

TO MAKE A CAN GRABBER:

1. Bend a coat hanger to form a teardrop.



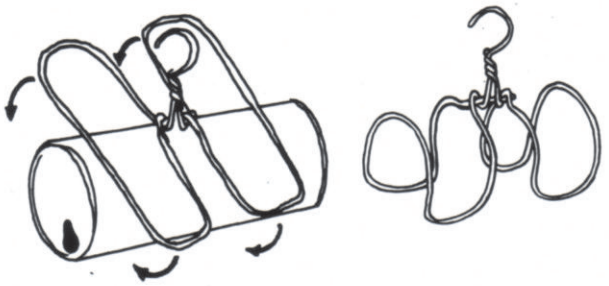
2. Grab the hook with one hand, the wire across from the hook with the other hand, and force the hook under the other side to form a giant pair of glasses.



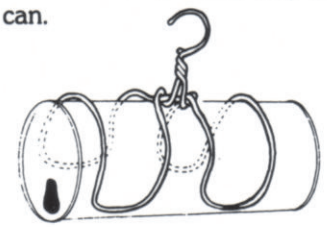
3. Twist the hook around the center wire to secure the shape.

4. Flatten out the "eyes" to form an "H".

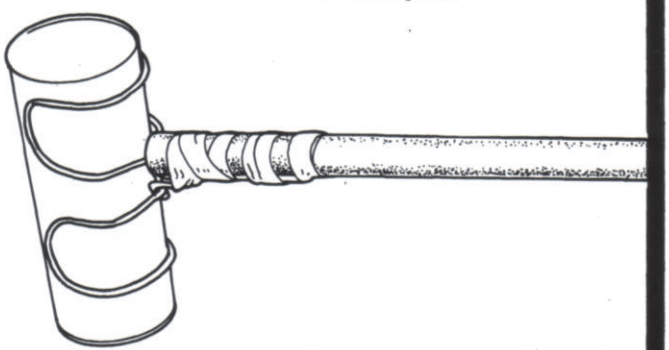
5. Bend the flattened "eyes" around a 12-ounce can to make arches that match the can's circular outline.



6. Adjust the tension of the curved arms so that they hold the can firmly when they are pushed onto the can.



7. Straighten out the hook, and securely tape the wire shank to the extension pole.



TO USE THE CAN GRABBER:

You have to push the Can Grabber down onto a can in order to "grab" the can. For this reason, the Can Grabber works best from docks or boats or when wading. Once you have grabbed a can, keep the can in a horizontal position as you raise it or the can will slip out of the Grabber. The Can Grabber also works on bottles that have about the same diameter as the 12-ounce cans.

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AQUATIC OBSERVATION AIDS:
For Aquatic Activities

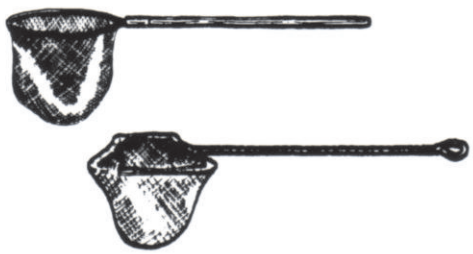
Equipment Card 2 Side 1

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.

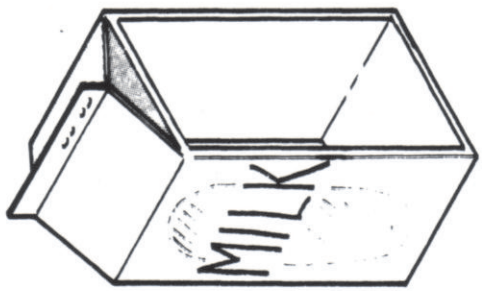


Magnifying Lenses

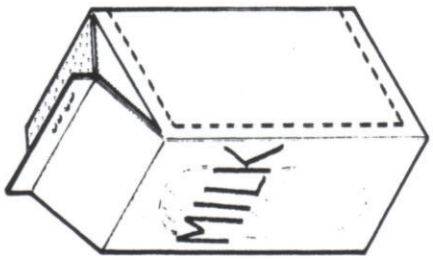
To use a magnifying lens, hold the lens close to one eye and move either your head or the object back and forth until you can see the object clearly.

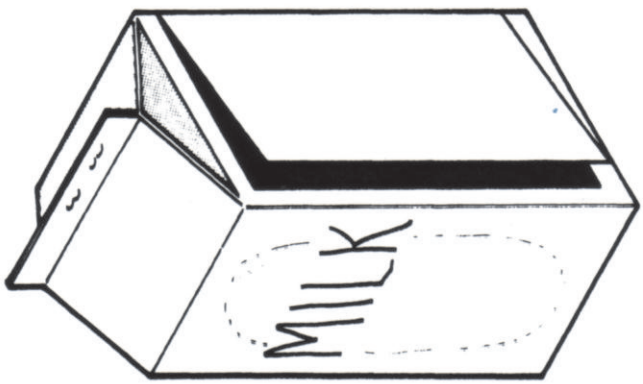
Observation Tray

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.





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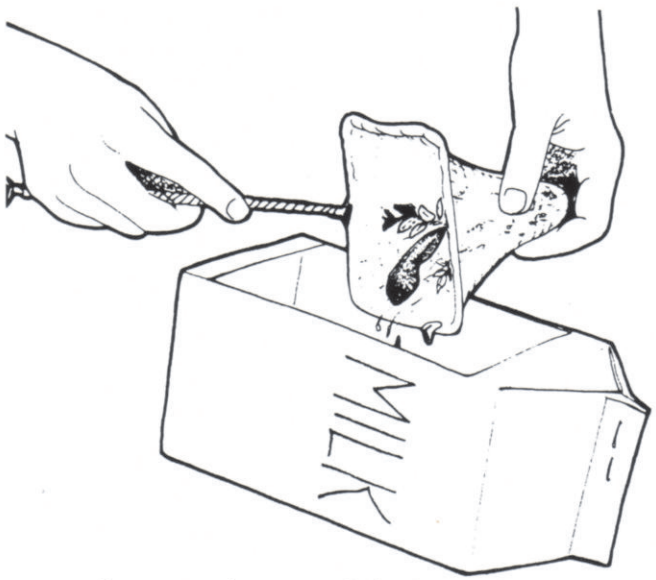
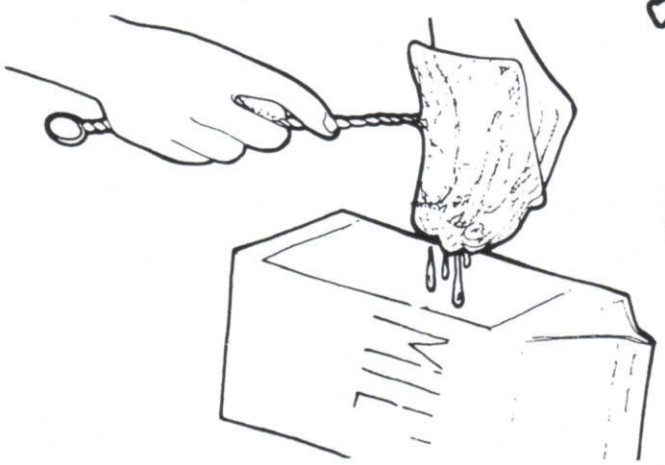
AQUATIC OBSERVATION AIDS:
For Aquatic Activities
Equipment Card Side 2

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.

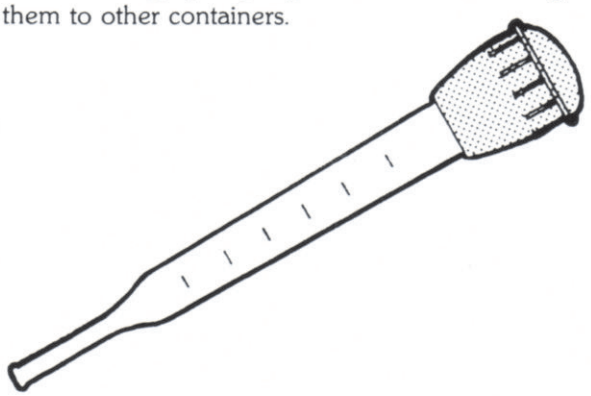


This will release netted organisms into the tray.

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.

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