

ADOPT-A-STREAM MONITORING EQUIPMENT BUILDING INSTRUCTIONS

BIOLOGICAL PARAMETERS: PLANKTON SAMPLING

STATIONARY PLANKTON NET

This "net with legs" is used to filter out larger plankton on a small piece of fine netting. Most plankton nets are designed for towing through the water, collecting plankton as the water passes through them. The stationary net can be used when it is not possible to tow the net, either because no boat is available or because the body of water is unsuitable. The stationary plankton net is set on the bank and the water brought to it in a bucket. This allows for accurate measurement of how much water has passed through the net.

Materials :

1	Large plastic funnel	8" across
1	Aluminum flat-stock	3/16" x 1" x 72"
1	Hose clamp	About 2" diameter
6	Bolts	1/4" x 3/4 "
6	Nuts for bolts	
1	Piece of light, fine mesh polyester fabric*	2 x 2"
1	small plastic cup	1-2" diameter

*If the fabric is too thick water may not pass through freely. If this occurs find a lighter material. A last resort is nylon stocking. Its meshes are too large for most uses.

Tools :

Sturdy vice
Hammer
Hacksaw
1/4" screwdriver
Knife
Plastic cement
Electric hand drill or drill press with 1/4" and 1/8" bits
Second grade flat file
Pliers
Scissors
Yardstick

Building Instructions:

1. To make the legs, cut three 7" lengths of the aluminum. At a point 3" from one end of each leg, make a groove straight across the piece, 1/16" deep, with a hacksaw. Make a bend at this groove so that the leg forms a 315° angle with the hacksaw cut on the inside of the angle. Drill two 1/4" holes in the 3" portion of each leg, and match these holes in the sides of the funnel. The pairs of holes in the funnel should be spaced 120° apart around the funnel, so the legs are equidistant from each other. See the diagram on the following page.
2. The procedure for mounting the small net below the mouth of the funnel will depend on the exact dimensions of your funnel and of your cup. Cut the bottom out of the cup and mount the fabric netting over it with plastic cement or epoxy. Place three small bolts in the neck of the funnel, so that the plastic cup can just fit over them. When the cement is dry, place the cup on the end of the funnel, and fasten it snugly against the three bolts with a hose clamp. This is to mount the netting over the end of the funnel so that it can be removed and replaced easily.

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STATIONARY PLANKTON NET (continued from page 1)

To Use:

The stationary plankton net can be stored inside a bucket. To use, it is lifted out and set on the ground and a precise volume of water is collected and poured from the bucket through the netting. Some guidelines as to the volume used are:

- For clear “unproductive” streams – 10 liters or more
- For slower, more turbid streams or lakes – 5 liters
- For lakes densely populated with algae – 1 liter

After the water has passed through the net, loosen the hose clamp and remove the net cup. Carefully back-rinse the net into a small container with a wash bottle of tap water. This will remove almost all the plankton caught in the net. The rinse water can then be microscopically examined for numbers of types of plankton. More information on methods of identification can be found in High School Manual Teacher’s Guide, Activity 7.1.

