Activity #2 - Make and Use a Plankton Net

Objective:

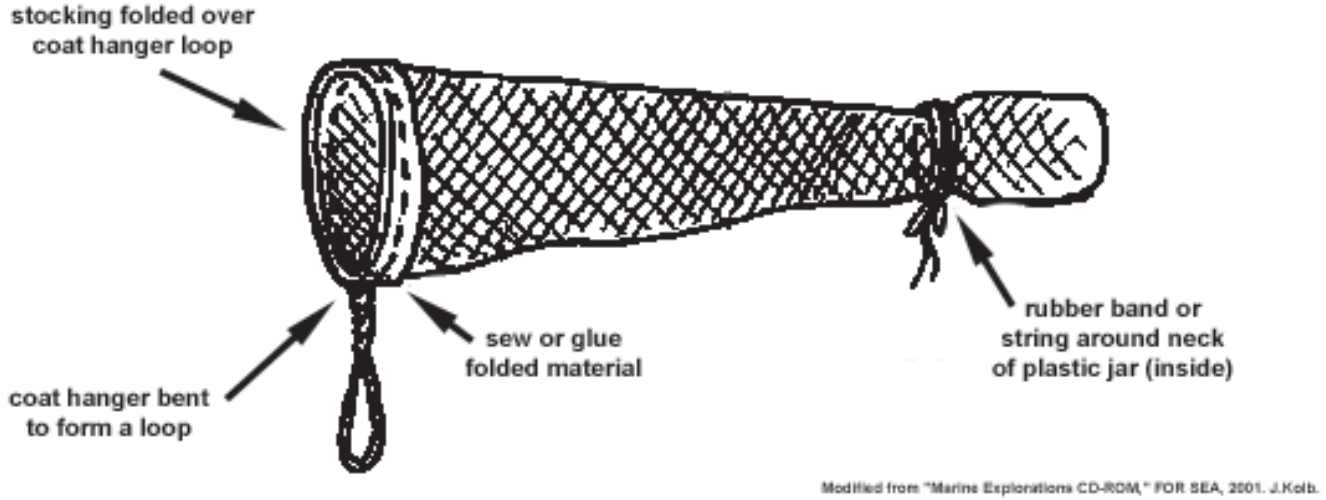
Students will make a simple plankton net and use it to collect and identify common forms of plankton.

Materials:

- UCLA OceanGLOBE Plankton Guide booklets
- plankton samples (best if refrigerated)
- microscopes or one microscope with projector attached
- petri dishes or microscope slides
- eyedroppers
- coat hangers
- string or strong rubber band
- nylon stockings or pantyhose
- plastic jars with lids
- needle and thread (or fabric glue)
- pliers

Procedures: Part A - Making a Plankton Net

1. Bend the coat hanger into a 5" circle and make a looped "handle."
2. Take one nylon stocking (or pantyhose leg) and place it over the wire circle, folding the nylon down about 5". Sew or glue the folded over section securely.
3. Tie a knot at the toe end of the stocking.
4. Place an open jar inside the stocking, bottom against the knot.
5. Tie a string or secure a rubber band around the stocking and top of the jar.
6. Collect your plankton samples by scooping the net through the ocean water. [The easiest place to do this is a place where the waters are calm and within easy reach of the students. A public boat dock or launch ramp is an ideal place. Alternatively, a thin piece of rope or strong string can be tied to the open mouth of the net so it can be towed from an ocean pier or even a boat.]
7. Remove the plastic jar from the nylon stocking. Cover it tightly, place in refrigerator or ice chest until ready for observation.



Modified from "Marine Explorations CD-ROM," FOR SEA, 2001. J.Kolb.

Procedures: Part B - Observing Plankton

8. Place a few drops of your plankton sample in half of a Petri dish or on a clean microscope slide.
9. Watch the plankton under a microscope.
10. Draw the plankton you see, large and with detail.
11. Label each picture. Use the identification guide to assist you.
12. List a few observable characteristics of your planktonic organisms in general.

Evaluation:

1. Were there more zooplankton or phytoplankton? Think about the variety of factors that could cause this and list them. [Most phytoplankton will be too small for the mesh of a nylon stocking, hence you should expect to see more zooplankton even though phytoplankton are approximiately 10 times more abundant.]
2. Which kinds of producer and consumer organisms were the most numerous in your sample?
3. Were there any temporary plankton (meroplankton) in your sample? LIst them.
4. Were there any permanent zooplankton (holoplankton) in the sample? List them.
5. What could possibly cause a significant change in the number of plankton in the ocean?

Extension:

Refer to the the last two pages of the UCLA OceanGLOBE Plankton Guide for instructions and mathematical formulas needed to calculate the abundance of each species of plankton. If you plan to do these calculations you should read this BEFORE you collect your samples.