

## Family Activity 1: Build a Plankton Net

**Family Members Present for Investigation:** \_\_\_\_\_

**Date of Investigation:** \_\_\_\_\_

**Question for Investigation:** Can you build a net for catching plankton using items found at home?

**Overview:** You and your family will build a simple *plankton* net from a nylon stocking and other household items, then (optional) use it to collect plankton in ponds, lakes, streams, bays, oceans, or even aquariums.

**Scientific Background:** A plankton net is a device for concentrating small marine organisms for closer examination. The small organisms collected in a plankton net will be plants and animals that go unnoticed by most people. A microscope is needed to identify many of these organisms, but you can see some of the larger zooplankton (animals) with your naked eye, and even better with a magnifying glass. A net with very fine mesh is used in the plankton net because many of these tiny organisms would pass through an ordinary dip net. The plankton net is essentially a cloth funnel that allows water to pass through, but retains the living organisms. The collected organisms will be found in the small plastic bottle found at the bottom of the net.

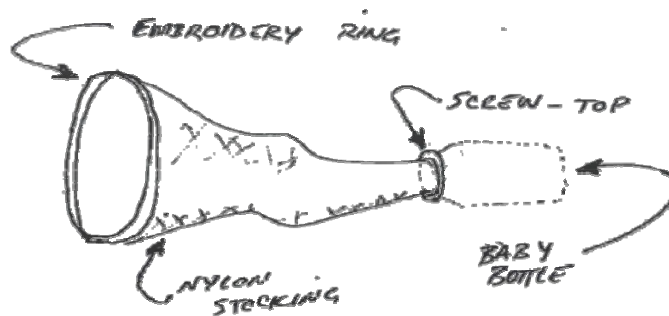
### Materials:

- 6 or 8 inch in diameter round plastic embroidery ring
- one leg of a nylon stocking (knee-highs work great)
- plastic 4 ounce baby bottle with lid
- scissors
- magnifying glass (optional)
- microscope (optional)

### Procedure for making net: (see diagram on next page)

1. Obtain all the materials.
2. Remove all tags and price tags from the embroidery ring. They could run the nylon stocking.
3. Open the embroidery ring by removing the locking nut.
4. Place the open end of your nylon stocking around the inner ring of the embroidery ring with about 1 inch of overlap over the top of the ring. **BE CAREFUL TO AVOID RUNS IN YOUR STOCKING** if runs occur try again with another stocking.
5. Secure the outer ring of embroidery around the inner ring.
6. Take plastic baby bottle and remove nipple and screw-top.
7. Turn nylon inside out.
8. Place opening of baby bottle over the center of the toe seam of nylon and stretch nylon over opening in bottle.
9. Secure bottle's screw-top over nylon. Nylon should be visible through top of bottle.
10. Return net to original position.
11. With scissors remove excess stocking from top of embroidery ring. Be careful to avoid runs in stocking.

12. Check for correct position of bottle. Screw-top should be inside net and plastic clear container should be outside the net.
13. If correct, turn net inside out again and with scissors carefully make a hole in the nylon on top of the bottle.
14. Return net to original position.



**Procedure for using the net: (ADULT SUPERVISION REQUIRED)** Find a place where the water is calm and shallow enough to wade. It should be deep enough, that the net does not drag on the bottom. Walk back and forth through the water, pulling the net behind you. You should keep the mouth of the net just below the surface. The longer you tow the net, the more plankton you will catch. Try towing for 15 minutes or more.

**Procedure for looking at your plankton:** Remove the bottle from the bottom of your net and pour the contents into a larger jar (such as a peanut butter jar) of lagoon water. Rinse the bottom of the net in the larger jar, too. You can probably see a few copepods and crab larvae if you look carefully.

You can keep the plankton alive for 24 hours in the refrigerator.

You will be able to see some zooplankton with your naked eye and a magnifying glass. If you have access to a strong microscope you might also see some phytoplankton.

**Drawings of organisms found:**