

## STUDENT MASTER

# Catching Plankton

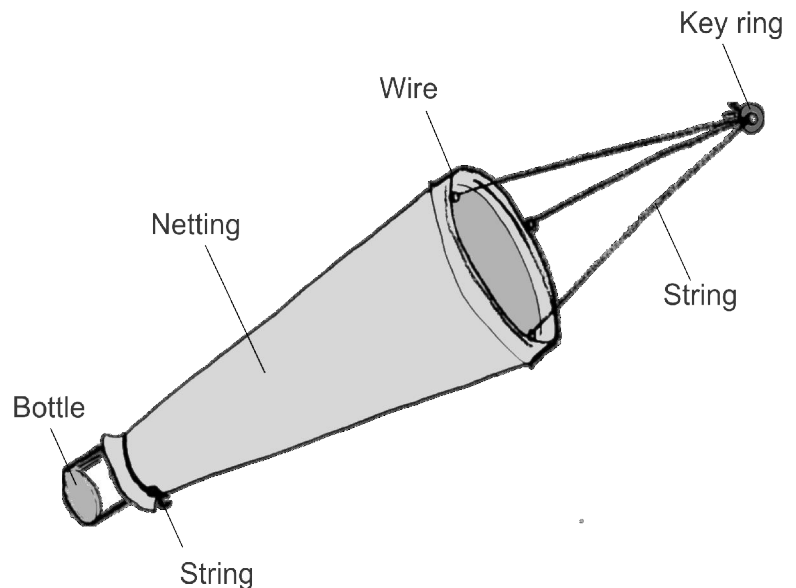
If you want to make first-hand observations of living plankton taken from your local river or estuary, you have to catch them! Plankton are usually very small and difficult to see. To catch (or collect) plankton, you'll need a specialized piece of scientific equipment called a plankton-net. This net is made of fine mesh that has holes large enough to allow water to pass through, but tiny enough so that plankton cannot pass through.

Let's start by making your own plankton net:

## Procedure

### Construct Your Plankton Net

1. As you construct your plankton net, you may want to refer to the diagram. Your teacher should also have one plankton net made ahead of time that you can look at as an example.
2. Bend the wire into a circle and wrap the ends around one another. Use duct tape to secure the wrapped ends and cover the sharp points.
3. Roll the largest opening of the stocking several times around the wire ring. Sew the stocking to the wire using the heavy thread and needle. Use duct tape to cover and protect the stocking.
4. Cut off the foot of the stocking and discard that piece. Now open the narrow foot end of the remaining stocking and insert the mouth of a small bottle. Wrap a piece of heavy string around the outside of the stocking and bottle mouth and tie the string tight to secure the stocking to the top of the bottle. Use duct tape to reinforce the connection between the bottle and string.
5. Cut three pieces of string, each about 50 cm long. These will become the "bridle" to tow your net. Tie the strings at equal intervals around the wire opening to the net. Tie the three loose ends of string to a key ring. This is the bridle ring. Your plankton net is now complete and ready to catch plankton!



### Use Your Plankton Net

6. You'll need to find a body of water and then devise a way to move the net through the water. Usually scientists tow a plankton net behind a boat. Since you probably don't have access to a boat, what are some other ways you might have to move water through the plankton net?
7. If you decide to tow your plankton net, tie a length of strong string to the bridle ring so that you can pull your net through the water. The plankton will become concentrated in the bottle.
8. When you have finished towing the plankton net, rinse the inside of the net with water so that plankton on the inside of the net get washed down into the collection bottle. When you are done, untie the string around the mouth of the bottle and carefully remove the bottle.
9. View the water contents in your collecting bottle. Do you observe particle motion even after the water has stopped moving? If you do, then those are your zooplankton!

10. If you've brought observation instruments to the collection site with you, then use an eye dropper to place a few drops of water from your collection jar into a viewing dish. View the plankton in the viewing dish through a hand lens or a microscope. What do you see?

## Discussion Questions

- Q1. Why did you use a nylon stocking as part of the plankton net? What would happen if you made a plankton net using flexible window screen? Why is it important to use a fine mesh fabric when constructing a plankton net?
  
- Q2. What difficulties did you encounter in collecting plankton using your plankton net? Could you make the plankton net differently to solve the problem?
  
- Q3. What method did you use to move water through your plankton net? How successful was that? Do you think another method might have been more successful?