## Working principle and assembly of a plankton net

**The working principle of plankton nets**

Diagram

Description automatically generated

A plankton net is a long funnel-shaped device made of silk screen (or alternative materials such as nylon, cotton sheet, pillow case, or shirt) that acts like a trawl submerged just below the water surface to collect plankton samples.

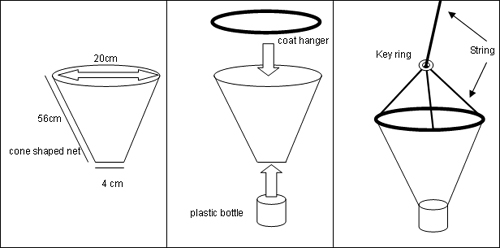
Whenever the mesh size of the net is smaller than the size of the plankton, the plankton become trapped inside the net. The narrower the mesh size of the net, the smaller the plankton in the water it can trap sample.

At the end of the funnel, there is a collection cylinder connected to a rubber tube with a clip.

58cm

75°

Figure 1: The template of silk screen



**Assembly of plankton net from raw materials**

**Materials**

1. 1 m2 silkscreen for printing (mesh size = 625 is equal to 625 holes in 1.25 cm)
2. 1 wire coat hanger
3. 1 small plastic bottle with a fairly small mouth size (clean plastic bottles for drinks)
4. A pair of scissors
5. Waterproof adhesive tape or hot glue (with hot glue gun)
6. Several thick rubber bands
7. 6 m string
8. 1 key ring
9. Stapler and staples
10. Cable ties

**Steps**

1. Uncoil the coat hanger and shape it into a circle with a diameter of 20 cm. Use waterproof adhesive tape or hot melt glue to fasten the loose ends together.
2. Prepare a cone-shaped net using the silkscreen, as shown in the template in Figure 1. Use staplers to make the cone-shaped net. The diameter of the wider end and the narrower end of the plankton net should be 20 cm and 4 cm, respectively.
3. Use cable ties to attach the wider end of the cone of the silkscreen to the circle wire.

*Points to note:* *Before attaching the net to the circle, fold the edge (overhead) of the net several times. This is to prevent the leaking of plankton specimens from the seam of the net.*

Chart, radar chart

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1. Cut open a plastic bottle and use only the part with the cap.
2. Use thick rubber bands to secure the plastic bottle tightly to the lower end of the net.
3. Cut three pieces of strings (about 20 cm) and tie them to the mouth of the net in the shape of a pyramid. Tie the other end of the string to the key ring.
4. Attach a longer string (about 5 m) to the key ring.

Image credits: Agriculture, Fisheries and Conservation Department