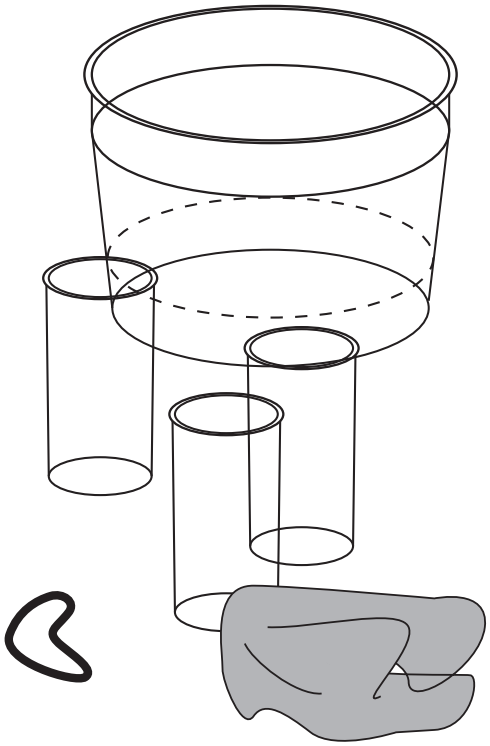
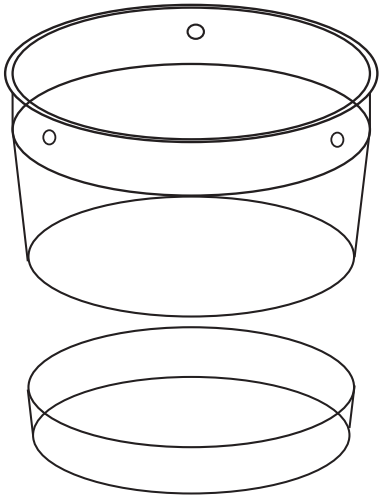
Assembling a Plankton Net

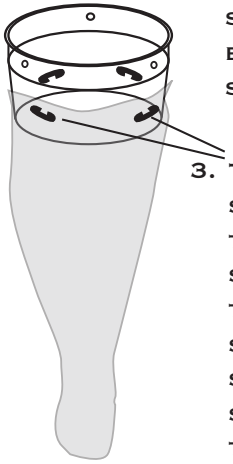


Materials:

- One Pint soup container
- One or more vials (caps optional)
  (12 dram polystyrene shown)
- One Knee high Nylon Stocking
- String
- Two Rubber Bands



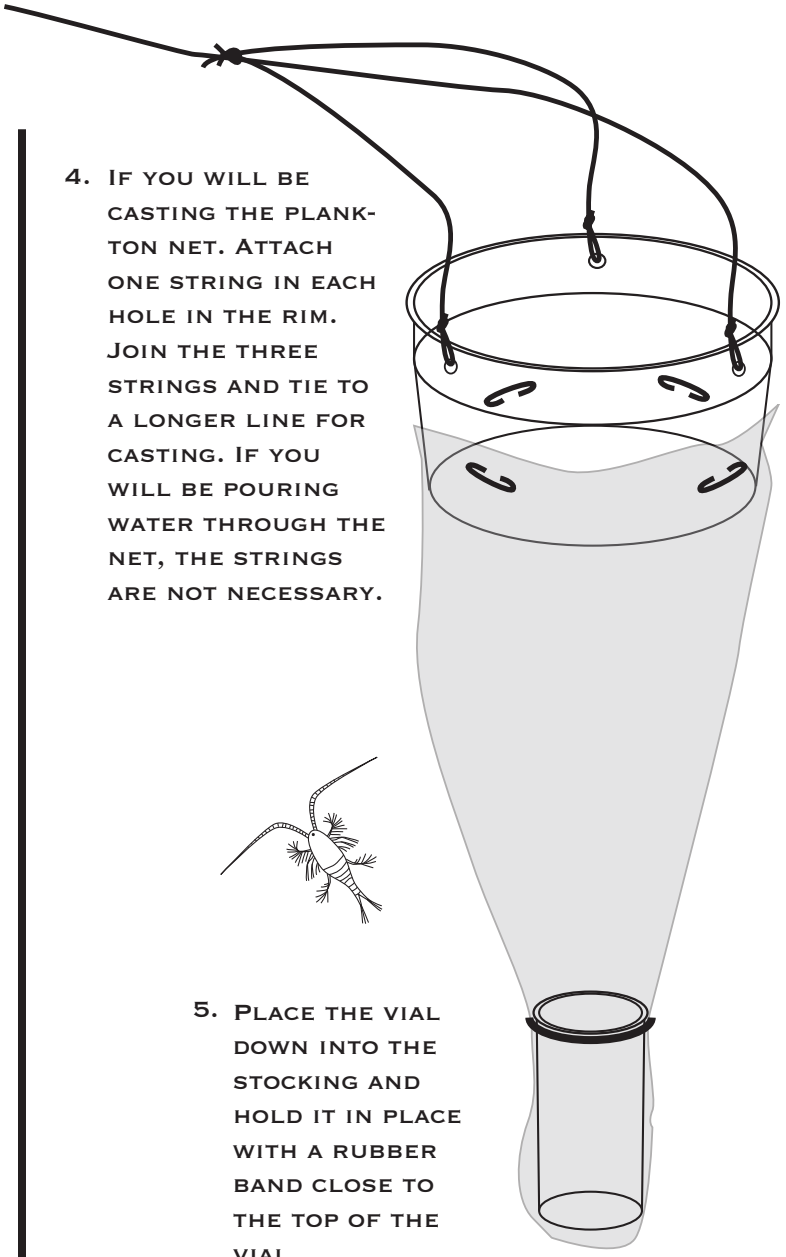
1. Remove the bottom of soup container and punch 3 holes around the rim.



2. Use two pieces of tape to attach the stocking to the bottom of the soup container.

3. Then use 4 staples through the stocking and the plastic to strongly secure the stocking to the dish.

4. If you will be casting the plankton net. Attach one string in each hole in the rim. Join the three strings and tie to a longer line for casting. If you will be pouring water through the net, the strings are not necessary.

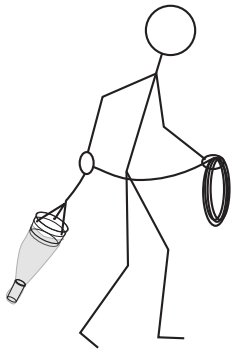


5. Place the vial down into the stocking and hold it in place with a rubber band close to the top of the vial.

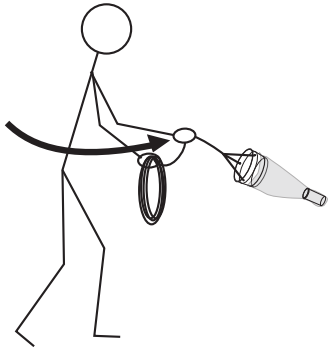
Using your Plankton Net

Method one: Casting

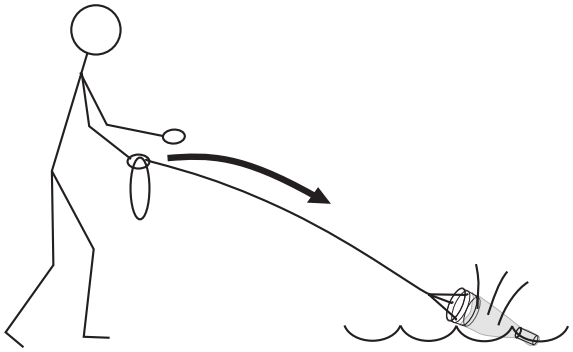
If you are collecting in an area with a large open water surface like a lake or a pond you can use a casting technique as illustrated below.



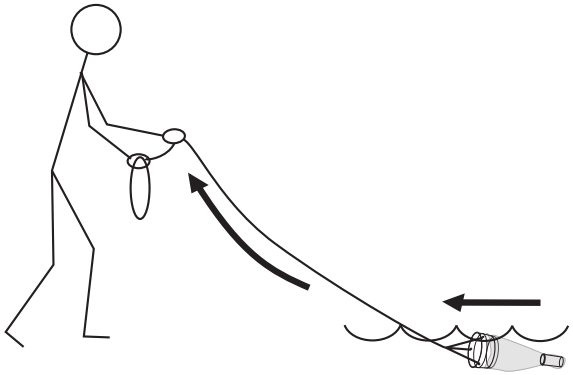
A. Hold the end of the string in one hand. Swing the net with the other hand.



B. Swing the net forward and release it with your hand near waist height and in front of your body.



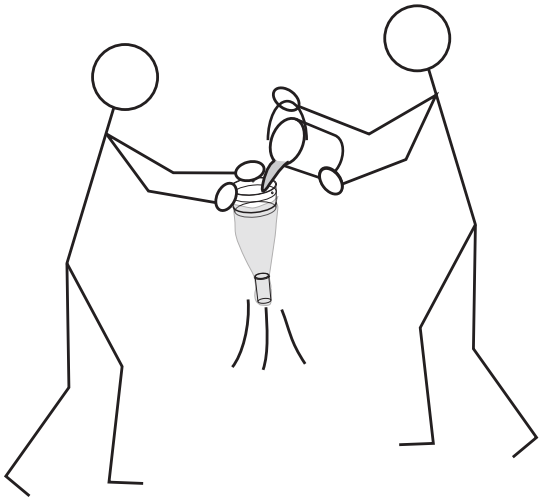
C. As the net travels away from you, feed out the string and hold on to the end. It should hit the water base first to avoid loosing any plankton from a previous cast.



D. Reel in the net by pulling on the string. Reel in the net at a rate that keeps the net near the surface of the water, not so fast that the net opening is above the water.

Method two: Pouring or pumping

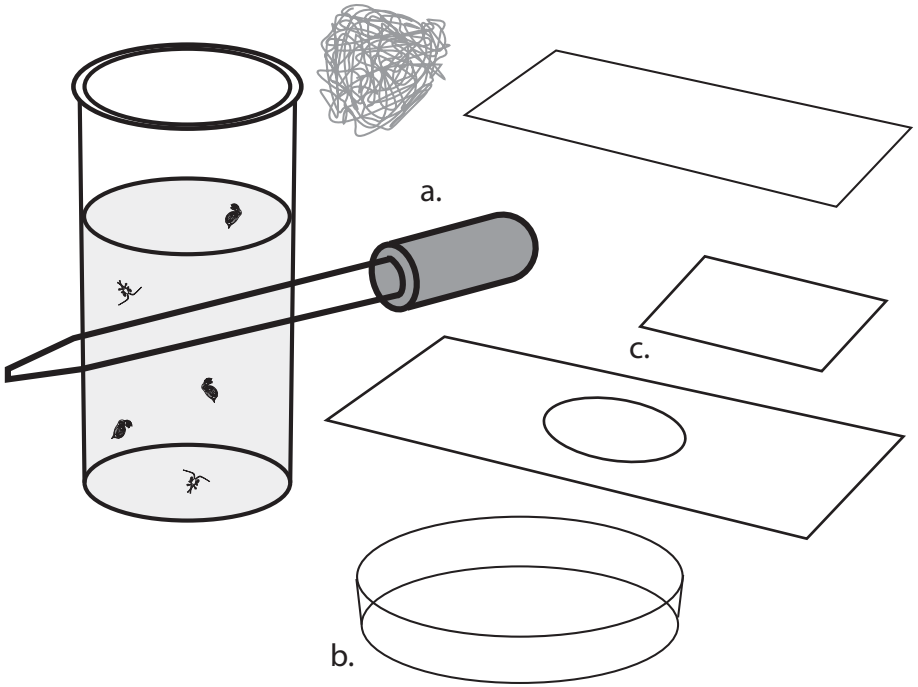
If you are collecting in an area where there isn't enough room to cast or the water surface is covered with plants, you can collect water in a bucket and hang the net and pour the water sample into the top of the net (watch your feet!). This is also a way to quantify the water you are sampling and get an idea of the plankton population density. Another strategy is to use a water pump an pump water into the hanging net.

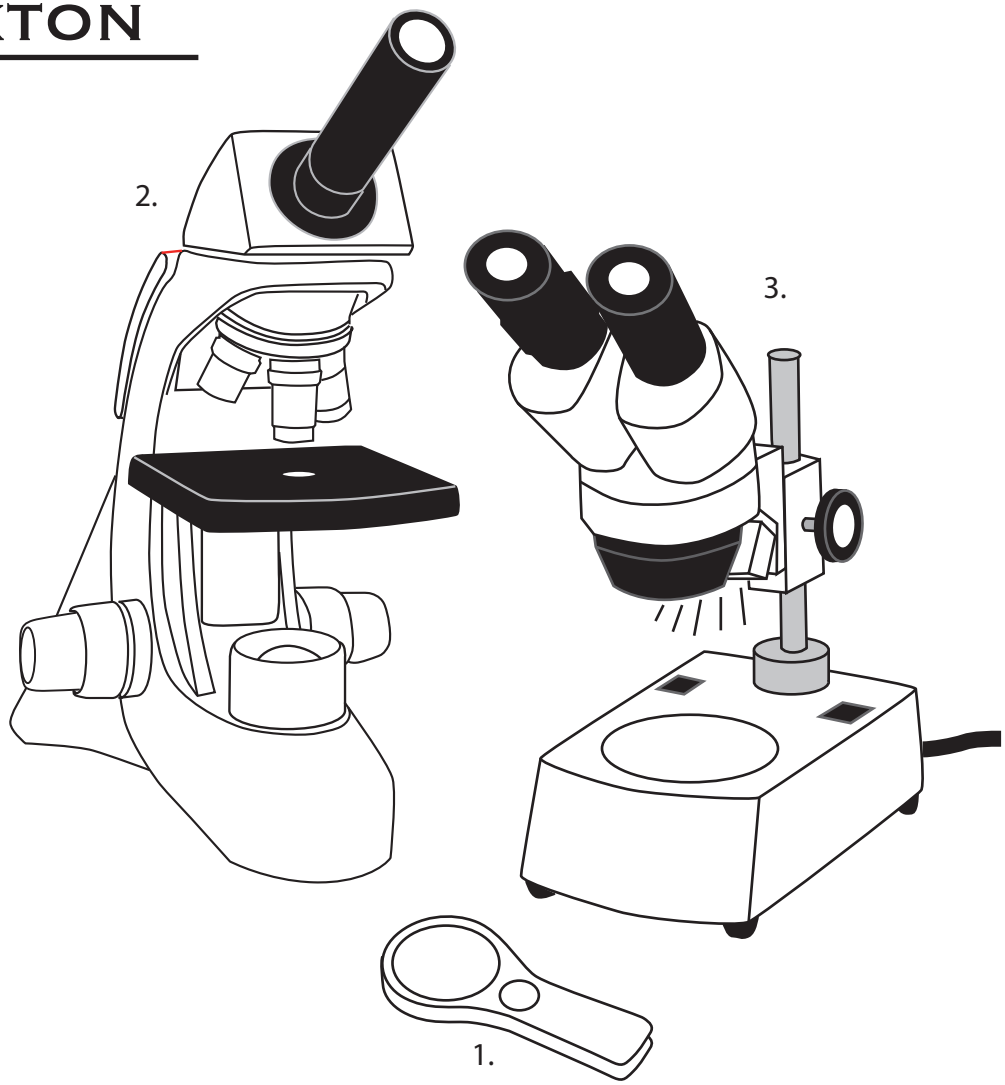


Looking at your Plankton

Back in the lab, there are many types of tools you can use to look at your plankton: a magnifying glass (also known as a hand lens)(1) , a compound light microscope (2) or a dissection microscope (3).

You will have your sample in the vial from your plankton net, or a jar. You will probably need a dropper (a), and a petri dish (b) or a microscope slide and cover slip (c) . Some microscope slides have a little dish or depression in the center, these are called "well slides" and the "well" gives your plankton a little space under the cover slip, if you can't find a well slide, a regular flat microscope slide works well if you put a little pinch of cotton fiber under the cover slip with your water sample. This prevents the cover slip from crushing your plankton.





You can use either the microscope slide (c) or the petri dish (b) with the dissection microscope (3). When using the (2) compound light microscope, you will have to use a slide and cover slip (c) .

Looking at your Plankton

To prepare a microscope slide. Use your dropper to take some water from your sample.

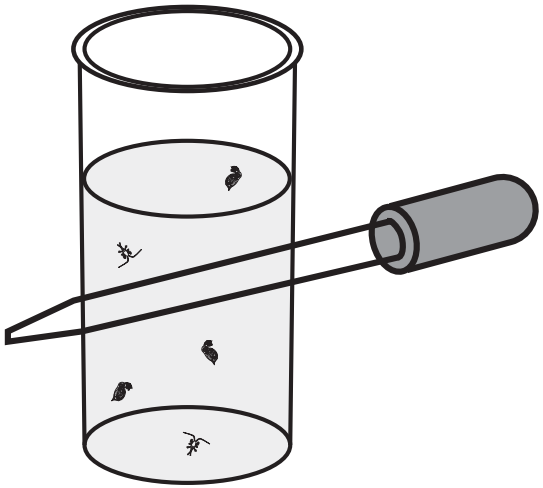
1) Then place a few drops of the water in the center of your slide.

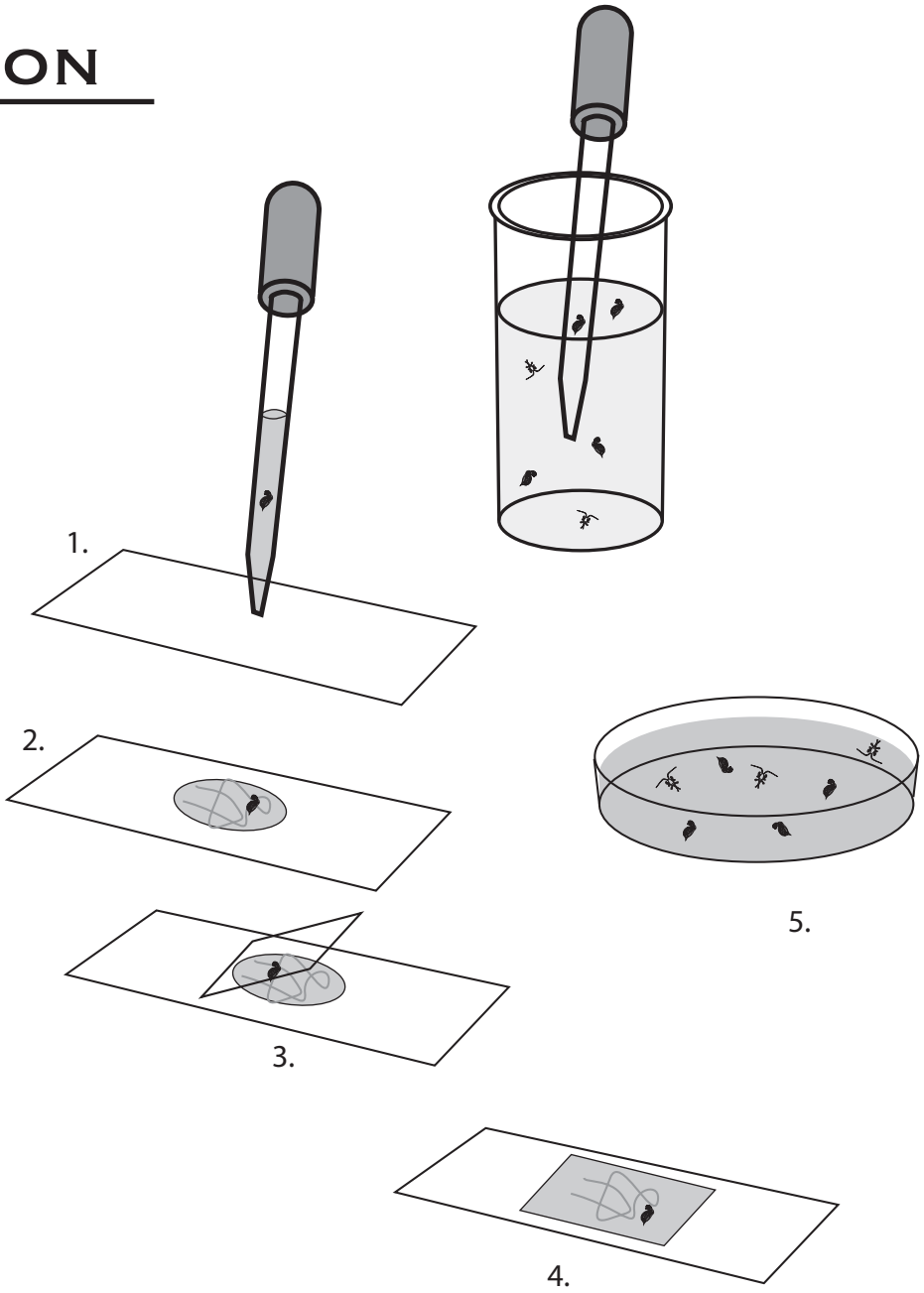
2) If using a flat slide, add a few fibers of cotton,

3) Gently lower a cover slip over your water. Touch one edge of the cover slip on the slide and slowly lower the cover slip at a angle until ...

4) The cover slip is flat over the water sample.

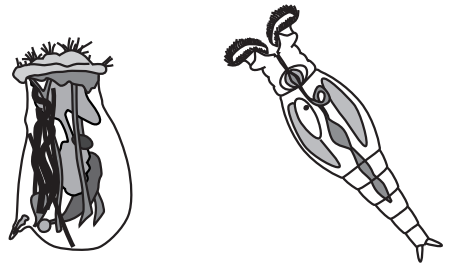
5) If using a petri dish or similar container, simply pour a little of your sample into the dish and place on the stage of your microscope.



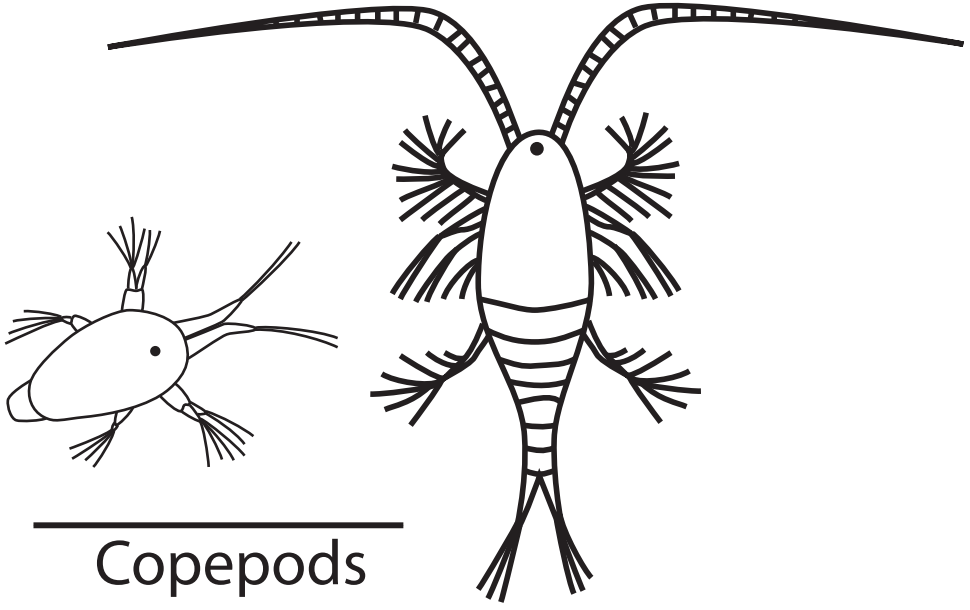


A Few Common Freshwater Plankton

Cladoceran
(Daphnia)

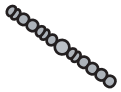


Rotifer



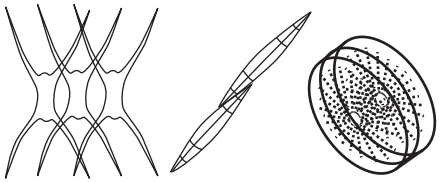
Copepods

Exploring the Micro World

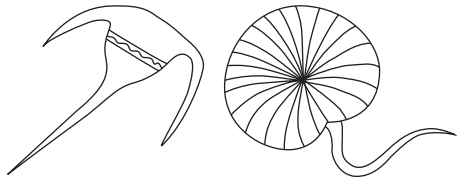


Cyanobacteria

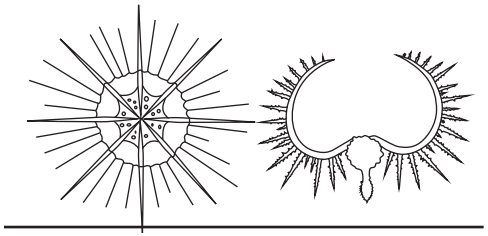
Tintinnid



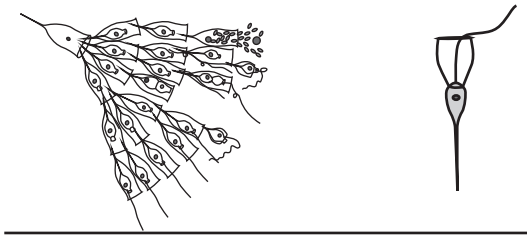
Diatoms



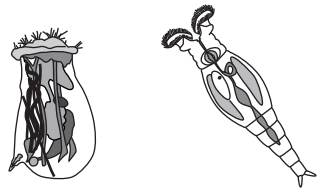
Dinoflagellates



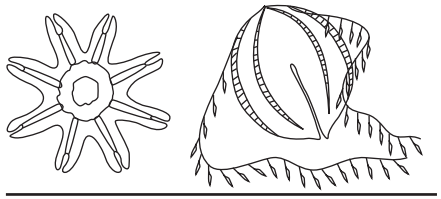
Radiolarian



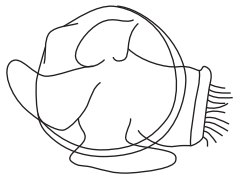
Protozoan



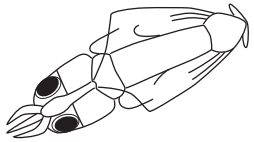
Rotifer



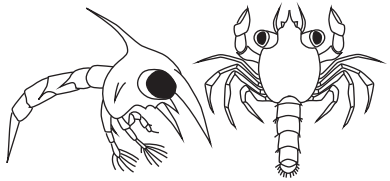
Jellies



Bivalve Mullosk (clam)

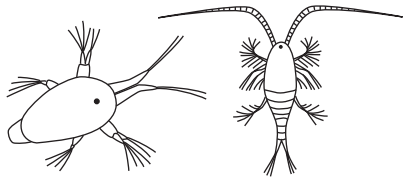


Squid

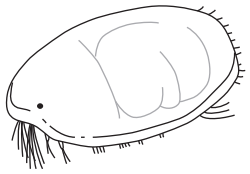


Crabs

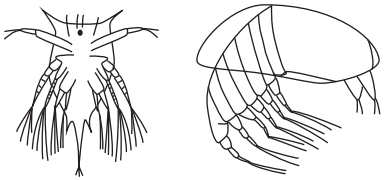
Cladoceran



Copepod



Ostracod/Seed Shrimp



Barnacle