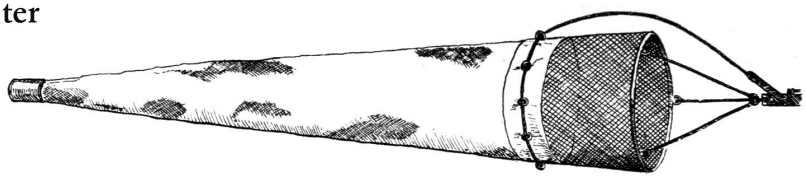
Florida Oceanographic Coastal Center

Collecting Plankton



Plankton is caught with a plankton net. The net is made from a very fine mesh nylon or silk cloth. The end of the net is a bottle to trap the plankton inside. Plankton nets can be set out in an area with a strong current, or the net can be pulled behind a boat. Plankton samples can be preserved in 3-5% formalin solution.

Plankton Vocabulary

cil·i·um (sîl¹ê–em) *noun plural* **cil i a** (sîl¹–e)
A microscopic hairlike projection. Capable of rhythmical motion, it acts in unison with other such structures to bring about movement.

di·a·tom (dì¹e–tòm´) *noun*
A single-celled, microscopic plant that secretes and is enclosed by a silica shell. They are the principal component of plankton.

di·no·flag·el·late (dì´no–flàj¹e–lît, –lât´, –fle–jèl¹ît) *noun*
Any of numerous minute, chiefly marine protozoans characteristically having two flagella and a cellulose covering and forming one of the chief constituents of plankton. They include bioluminescent forms and forms that produce red tide.

fla·gel·lum (fle–jèl¹em) *noun plural* **fla gel la** (fle–jèl¹e)
Biology. A long, whiplike extension of certain cells or unicellular organisms that functions as an organ of locomotion.

hol·o·plank·ton (häl´ o–plàngk¹ten) *noun*
Zooplankton that spend their entire lives in a floating state.

mer·o·plank·ton (mer´ o–plàngk¹ten) *noun*
Zooplankton that spend part of their life as plankton then change into free swimmers or bottom dwellers

nan·o·plank·ton (nàn¹e–plàngk´ten) *noun*
Aquatic organisms constituting very small or the smallest forms of plankton.

phy·to·plank·ton (fi´to–plàngk¹ten) *noun*
Minute, free-floating aquatic plants.

plank·ton (plàngk¹ten) *noun*
Aquatic organisms that float at the mercy of the currents or have limited swimming abilities.

zo·o·plank·ton (zo´e–plàngk¹ten) *noun*
Plankton that consists of animals, including the corals, rotifers, sea anemones, and jellyfish.

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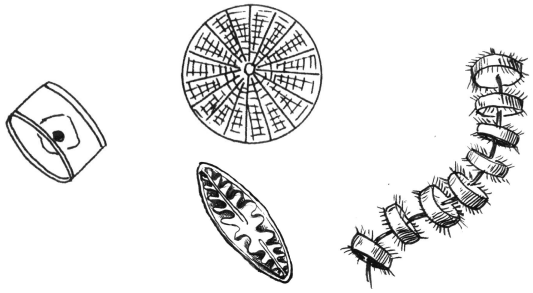
Phytoplankton

Phytoplankton is made up of very small, usually unicellular, plants. Phytoplankton are very important producers and form the base of the oceanic food chain. Phytoplankton produces 75-85% of the organic matter and over 80% of the oxygen on the planet. Diatoms and dinoflagellates are the major forms of phytoplankton.

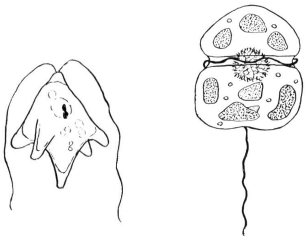
Diatoms

Diatoms rarely exceed 1/50 inch in size. They are single-celled algae that cannot swim. Diatoms have two-part shells made of silica, a glass-like substance. The shell fits together like a box and lid. This shell helps the diatom float. Diatoms are the best producers in the ocean. They are eaten by zooplankton and larger filter feeders.



Dinoflagellates

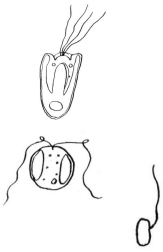
Dinoflagellates have characteristics of both plants and animals. They can photosynthesize like plants. They can also swim like simple animals using flagella, small whip-like appendages. They are the second most important producer in the ocean after diatoms. Two species of dinoflagellates are responsible for red tides.



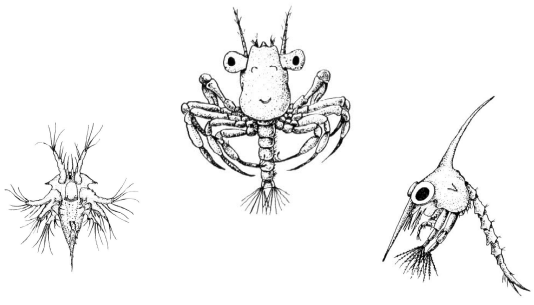
Zooplankton

Zooplankton are animal plankton. Some zooplankton spend their entire lives as plankton. They are called **holoplankton**. Other zooplankton are just a stage in the live cycle of an animal. Those are called **meroplankton**.

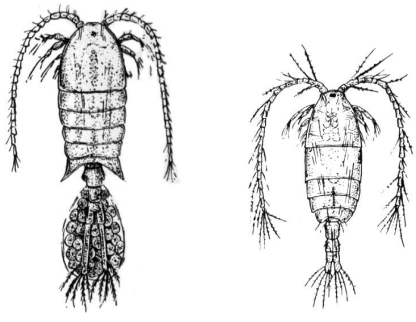
Zooplankton can be further classified by size. **Nanoplankton** is the smallest plankton (5/1000 mm to 60/1000 mm). They are primarily of single-cellular animals that eat phytoplankton. **Microplankton** (61/1000 mm to 1 mm) is mainly meroplankton, the eggs and larvae of invertebrates. **Macroplankton** (over 1 mm) contains mainly holoplankton, such as copepods and amphipods. **Megaplankton** are the large animals that move with the currents or are poor swimmers such as the Portuguese man-o-war and the sunfish.



Nanoplankton



Microplankton



Macroplankton