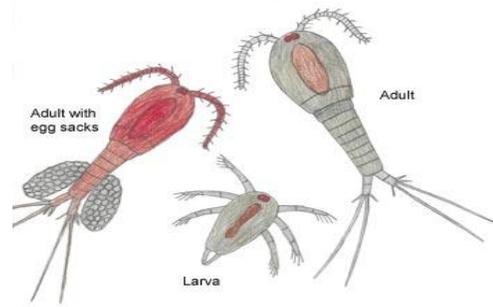


PLANKTON

*Communities of
drifting plants and animals*



Plankton are an incredibly important part of the global ecosystem. On board the *Piscataqua* we'll trawl for plankton with a plankton net and discuss their importance to other marine life and to ourselves. Below is an overview of plankton with supporting activities you may enjoy doing with your students before your trip.

The term PLANKTON comes from the Greek *planktos* meaning “wanderer”. Plankton wander in that they “go with the flow”, or drift with the currents, tides, and waves. While plankton may not be able to swim against these forces many are able to move up and down in the water column. Plankton have evolved some very interesting ways to keep themselves afloat. Some have many appendages that take advantage of water’s adhesive properties. Others create air bubbles or oil bubbles that help keep them near the surface. Most plankton are microscopic, but since plankton are just organisms that can’t swim against the current, jellies are also considered plankton and some jellies can be very, very large! It is important to remember that while we may be able to move easily through water, plankton are *very* small, and for them moving through water is similar to us trying to swim through jello.

[Click here](#)
for an activity where
students can design
their own plankton
and think about
plankton
adaptations!

There are two major groups of plankton: PHYTOPLANKTON and ZOOPLANKTON. Phytoplankton are usually smaller than zooplankton but they are *very* important for marine life as well as for us! Phytoplankton are “plant like” protists that photosynthesize. Since they need sunlight to create their food, they are found near the surface and just like plants on land that photosynthesize, phytoplankton give off oxygen. Most (50-80%) of the oxygen that we breathe is produced by phytoplankton! Also, just like plants on land that are the basis of the food web, so are phytoplankton in the water. Most phytoplankton are very small, and we will not be able to see them on the boat.

Zooplankton are animal-like. They are generally a bit larger than phytoplankton. Like us, they have to eat to get energy. Zooplankton will eat phytoplankton and other zooplankton. Many zooplankton are actually larval stages of many types of marine species. Fish, crabs, snails, oysters, mussels are just a few of the organisms that start their lives as zooplankton. In fact, about 80% of all marine species spend at least part of their lives as zooplankton. These are called MEROPLANKTON. Other zooplankton, like jellies, spend their *whole* life in the planktonic stage. These are referred to as HOLOPLANKTON.

[Click here](#)
for an activity
showing animals in
their planktonic
larval stage, and
match them with
their adult shapes!

Plankton need nutrients to live, just like people, and are found in abundance in places with lots of nutrients, like estuaries. This is one of the things that make estuaries such rich places; lots of nutrients means lots of plankton, which means lots of food for other organisms. This is especially important in the spring when marine organisms are reproducing and their offspring need lots of food. Just like on land when the earth is warming up and the flowers start budding, the water starts warming up too. Phytoplankton begin reproducing, resulting in phytoplankton blooms that are so large you can see them from space! The phytoplankton blooms provide necessary food for zooplankton and other marine organisms.

[Click here](#)
for an activity
looking at satellite
images of the
seasonal changes
in the water.