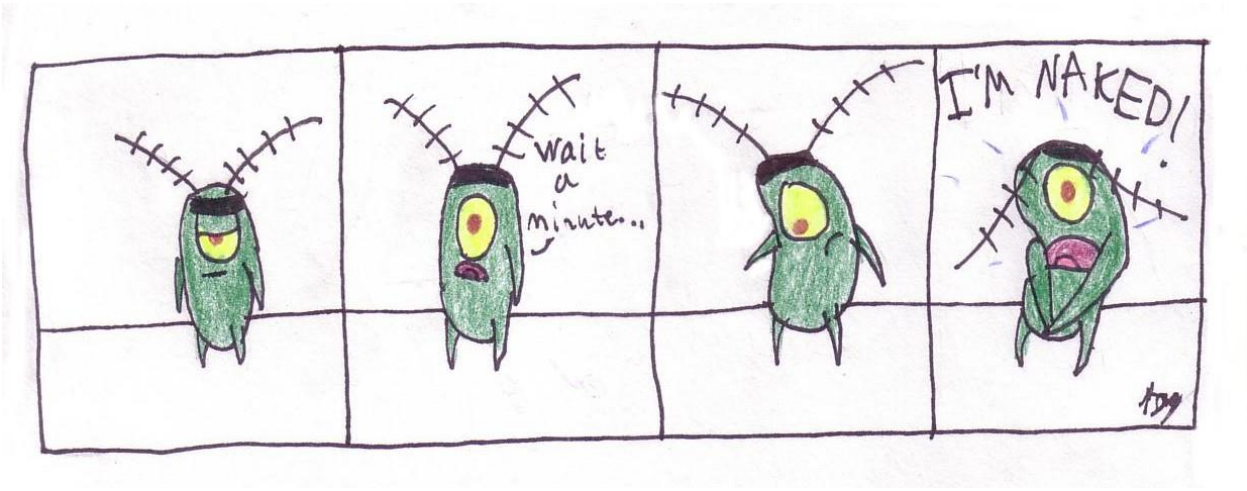
Plankton Structure and Function

(Adapted From "The Smallest yet Most Important Critter of the Sea")



Introduction: Although plankton are some of the smallest creatures in the world's oceans, they are also some of the most important. But, because you cannot generally see them, they are easy to overlook. It was for this reason that this community went undiscovered until someone dragged a fine mesh net through the water and examined the contents under a microscope.

Identification of Planktonic Organisms: In this exercise you will identify some of the planktonic organisms in your sample. To do this you will need to prepare a slide for use under the microscope.

1. Use low power to locate organisms on the prepared slides. Turn the course adjustment knob until you locate the organisms. Once you have located the organisms, turn the fine adjustment knob to fix the resolution. If needed, advance to a higher magnification.
2. Sketch and color TWO zooplankton and TWO phytoplankton. Identify one characteristic structure for each organism and hypothesize the function of that structure.

Identification of Preserved Planktonic Organisms

Organism 1	Organism 2	Organism 3	Organism 4
Name: _____	Name: _____	Name: _____	Name: _____

Day 2: After collecting plankton from the wetland, make an additional wet mount slide (as you did yesterday). Again, you will be identifying TWO zooplankton and TWO phytoplankton.

Identification of LIVE Planktonic Organisms

Organism 1	Organism 2	Organism 3	Organism 4
Name: _____	Name: _____	Name: _____	Name: _____

Analysis and Conclusion Questions:

1. Define plankton.
2. Analyze the ways in which zooplankton and phytoplankton obtain food.
3. Where in the water column would you find zooplankton? Phytoplankton?
4. In a typical aquatic food chain, at what trophic level would you find phytoplankton? Zooplankton?
5. What adaptations allow plankton to remain in the correct portion of the water column?
6. Plankton are an integral part of an aquatic food web. What types of organisms feed on plankton?