

Laboratory Study of Plankton

We will spend part of this period in the laboratory in order to become acquainted with the microscopic plankters which we cannot directly observe in the field. Read the instructions carefully, study the material available to you, and fill in the spaces on these sheets as required. Your grade will depend on the quality of your report. Use pencil. (10 points)

- I. *Fresh plankton from Monterey Bay*: Obtain a sample of the plankton tow we obtained in the field. Prepare wet mounts using the depression slides and cover slips or watch glasses for the biggest forms; or flat slides and cover slips for the smaller. These are living organisms and are very fragile. Changes in salt concentration and temperature are quickly fatal. Work fast! Carefully and exactly draw four different zooplankton and three different phytoplankton in the spaces provided. Using the reference provided, identify each to Phylum or Division and to the smallest taxon possible, i.e., Genus, Family, Order or Class. **OBSERVE OTHER PEOPLES' DISCOVERIES.**

- II. For each description below, answer the following questions:
 - a) What adaptations to flotation does this organisms exhibit?
 - b) Can it swim or move? How? Does it swim head first or tail first? Describe.
 - c) If it is zooplankton, is it meroplankton or holoplankton?

A. Zooplankton

1. Phylum _____

Genus or larger Taxon _____

Length _____

2. Phylum _____

Genus or larger Taxon _____

Length _____

3. Phylum _____

Genus or larger Taxon _____

Length _____

4. Phylum _____

Genus or larger Taxon _____

Length _____

B. Phytoplankton

1. Division _____

Genus or larger Taxon _____

Length _____

2. Division _____

Genus or larger Taxon _____

Length _____

3. Division _____

Genus or larger Taxon _____

Length _____

III. Why are plankton mostly small? What does a small body size have to do with the lifestyle they lead? How will the sinking rate change with increasing size?

IV. If time permits and we do a phototaxis experiment, what is the response of zooplankton to light? Do they swim away from it or towards it? Why? How does this affect their behavior out in the ocean with respect to day/night?

