1.a. Find the living *Ectocarpus* on demonstration and examine a filament in a wet mount. Sketch the chloroplast(s) into the filament below.

1.b. Now look at your prepared slide of *Ectocarpus* and locate a filament with a pleurilocular isogametangium and another with a unilocular meiosporangium. Designate haploid and diploid filaments and add the appropriate structures (pleurilocular isogametangia and unilocular meiosporangia) to the illustrations below.

1.c. What kind of life cycle does *Ectocarpus* have?
2.a.  Find the culture of *Sphacelaria* on demonstration and examine a filament in a wet mount. Compare its chloroplasts with those of *Ectocarpus*.

2.b.  Although this is a branched filament, the form of the *Sphacelaria* filament is very different from that of *Ectocarpus*. How?

3.a.  Find living and preserved *Dictyota* on demonstration and make a general habit sketch.

3.b.  Look at the demonstration slide of *Dictyota* and describe the oogonial sori.
4.a. Find the preserved *Laminaria* on demonstration and make a general habit sketch showing the holdfast, stipe, and blade.

4.b. Locate your prepared slide of a *Laminaria* blade cross section and add zoosporangia and paraphyses to the drawing below.

5. Now, examine other kelps on demonstration as living, or preserved examples. Be able to distinguish between them.
6.a. Examine living or preserved *Fucus, Ascophyllum, and Sargassum*. Be able to recognize these genera.

6.b. What obvious feature is common to all of the genera?

7. Investigate the prepared slides of *Fucus*. Designate one conceptacle below as "male" and the other as "female". Sketch oogonia, paraphyses, and antheridia into the appropriate drawings.

8. Although similar in form, what are the fundamental differences between the oogonial sori of *Dictyota*, the zoosporangial sori of *Laminaria*, and the oogonial conceptacles of *Fucus*. 