



PLANKTON OUTDOOR LAB

Team Members:

Background: *Plankton* are minute aquatic organisms that drift with water movements.

Phytoplankton (plants) comprise mainly **green algae** and **diatoms**, carry out photosynthesis (“primary producers”) and form the base of aquatic food-chains.

Zooplankton (animals) feed on phytoplankton and include small microcrustaceans (**Copepods and Daphnia**) and protozoans (one celled animals). These are barely visible with the naked eye but seen better with the magnifying lens and “dissecting” stereo microscope with low power objective.

Materials:

1. Plankton net (one per two person mini-team; as soon as you empty collection vial, give net to other team member). Rinse clean and share.
2. Clear plastic glass, plastic bulb pipettes, microscope slides (one plain with cover slip, one with central depression but no coverslip}.

Directions:

1. Collect plankton while on pontoon: Straighten the net out and tightly attach the collection bottle at the end of the net. The net is expensive, so attach the lanyard loop to wrist.
2. Place the net in the water at side of pontoon, drag under the surface of the water toward and around front end and back other side.
3. Remove net from the water. You should be able to see minute living things in the collection bottle with the magnifying glass. If none present, collect again without emptying collection bottle.
4. When some visible particles are present, carefully remove the collection bottle and our bottle contents into separate covered container.
5. Rinse collection bottle and give to next team at shoreline plankton station, use plastic pipette, to transfer a drop of sample to depression on slide. Observe with dissection microscope, low power. Look for large **copepods** and possibly **Daphnia**
6. Place another small drop on plain flat slide, cover with cover slip, examine through the other microscopes, observe **algae** and **diatoms**.

After each of your identifications, get confirmation from teacher.

	Teacher initials	Points
1. Safely, cooperatively helped collect plankton off dock with net (5 pts)	_____	_____
2. At microscope, identify a COPEPOD and DAPHNIA (zooplankton) . ___ Copepod (5 pts) ___ Daphnia or other “water flea” (5 pts)	_____ _____	_____ _____
3. Identify ALGAE , tiny light <i>green</i> particles with microscope, phytoplankton ___ None ___ Few ___ Many (5 pts)	_____	_____
4. Identify DIATOMS , tiny geometric shaped algae, phytoplankton ___ None ___ Few ___ Many (5 pts)	_____	_____

TOTAL PLANKTON MODULE POINTS (25 maximum) _____