Name: _____

Your Cheek

Materials:

- Toothpick (one per person)
- Small test tube (one per person)
- Glass pipette
- Pipette bulb
- Methylene Blue
- Microscope slide (one per person)
- Cover slips (one per person)

Procedure:

1. Fill the test tube with a small amount of tap water.
2. Scrape around on the inside of your cheek with the toothpick.
3. Swirl the toothpick in the water to mix the cells around.
4. Put one drop of Methylene Blue stain in the beaker and stir.
5. Extract one drop of your cell mixture from the test tube and place it on a microscope slide. Place a cover slip over the drop and look for cells using the microscope.

Look at your cell at different magnification levels, beginning with the lowest power. Draw your cheek cell here, using the **ENTIRE** available space. Try to identify any cell structures you may be able to see.

Name: _____

Pond Protozoa

Materials:

- Beaker of pond water
- Glass pipette
- Pipette bulb
- Microscope slides
- Cover slips
- Book of protozoans

Procedure:

1. Use the pipette to extract a small sample of water from the beaker (try in the middle of the water, or alternately near the bottom).
2. Place one or two drops of water on a microscope slide, and examine it under the microscope.
3. You may need to shift the focus up and down, or place a cover slip over the drops, in order to find protozoa.

Look at the protozoa at different magnification levels, beginning with the lowest power. Draw the protozoa here, using the **ENTIRE** available space. Describe any movement you see (slow and steady? crazy and spirally? etc.). Try to identify any cell structures you may be able to see. Can you determine which type of protozoa you're looking at?

Name: _____

Marine Algae

Materials:

- Beaker of sea water
- Glass pipette
- Pipette bulb
- Microscope slides
- Cover slips
- Book of phytoplankton

Procedure:

1. Give the beaker a gentle swirl and use a pipette to extract a small sample of water from the beaker.
2. Place one or two drops of water on a microscope slide, and examine it under the microscope.
3. You may need to shift the focus up and down, or place a cover slip over the drops, in order to find diatoms and dinoflagellates.

Look at the algae at different magnification levels, beginning with the lowest power. Draw the algae here, using the **ENTIRE** available space. Describe any movement you see (slow and steady? crazy and spirally? etc.). Try to identify any cell structures you may be able to see. Can you determine which types of unicellular algae you're looking at?

Name: _____

Kelp Cross-section

Materials:

- Small chunk of kelp
- Razor blade
- 3 microscope slides
- Cover slips
- Glass pipette
- Pipette bulb
- Seawater

Procedure:

1. Carefully cut out a small piece of kelp blade.
2. Sandwich the kelp between two microscope slides
3. Slowly pull the top slide back, revealing the kelp, as you make repeated cuts with the razor (ask Kevin for help on this step)
4. Select the thinnest section and lay it on its side on the third microscope slide
5. Place a drop of seawater and a cover slip on top of the section.

Look at the kelp section at different magnification levels, beginning with the lowest power. Draw the kelp section here, using the **ENTIRE** available space. What color are the cells? Why? Are the cells evenly distributed in the kelp? What benefit might the arrangement of cells give to the kelp?

Name: _____

Onion Membrane

Materials:

- Small chunk of onion
- Razor blade
- Microscope slides
- Cover slips
- Iodine

Procedure:

1. Carefully cut out a small piece of onion.
2. Peel off one of the thin membrane layers of the onion and cut it down small enough to fit on a slide.
3. Place the membrane on a slide, and add one drop of iodine and a cover slip.

Look at the onion membrane at different magnification levels, beginning with the lowest power. Draw an onion cell here, using the **ENTIRE** available space. Try to identify any cell structures you may be able to see.