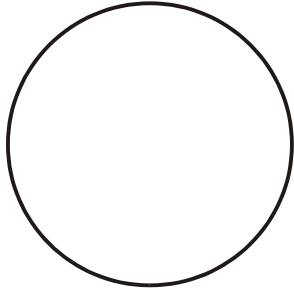


Take a young, tender Elodea leaf from the tip of the stalk. Mount it on a slide in a drop of its own water, add a cover slip, and examine it under the microscope at low and high power. Note especially the distribution of the small green chloroplasts inside the cells. Focus on both cell layers.

Draw the cells you see under high power, with particular attention to 3 or 4 cells in the center of the field, color them and ***label the:***

cell wall and



chloroplasts. Where is the cell membrane? _____

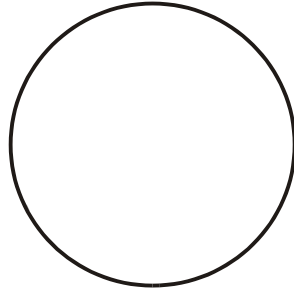
_____.

The pond water is _____ tonic to the cells.

Now, remove the cover slip and use a small piece of paper toweling to remove the pond water. Place a drop of salt water on the leaf and replace the cover slip; remove any excess water, being careful not to wet the bottom of the slide or get any water on the microscope. Wait a few minutes and then notice the new distribution of the chloroplasts.

Again, draw the cells you see under high power, with details in 3 or 4 cells in the center of the field, ***label the:***

cell wall,



chloroplasts, and

cell membrane.

The salt water is _____ tonic to the cells. Which way

has water

diffused? _____

This shrinkage of cell contents due to loss of water is known as plasmolysis. When plasmolysis becomes irreversible, the cell dies. You will notice that for this experiment we used a plant cell rather than an animal cell, and that the plant cell has two structures (cell wall and chloroplasts) which animal cells do not have. In this experiment,

What is the advantage of having chloroplasts? _____

What is the advantage of having cell walls? _____
