Lab. Experiment

Structure of a Plant Cell

Purpose: To examine plant cells under a microscope and find and identify different cell parts.

Materials:

microscope	eyedropper
slide	tweezers
cover slip	red dye
onion	

Procedure:
1. Carefully peel off a small piece of the very thin layer of tissue from just under the outside skin of an onion.
2. Unroll the specimen so that it is flat, and place it in the middle of a clean slide.
3. Use an eyedropper to add a drop of stain (dye) to the specimen on the slide. The stain will make the cells of the specimen easier to see.
4. Use the tweezers to place one edge of the slip- cover on the slide beside the specimen. Slowly lower the cover slip over the specimen. This method will reduce the chance of trapping air bubbles between the slide and the cover slip. A slide prepared in this way is called a *wet-mount* slide.
5. Observe the specimen with the microscope. Use the low objective first. Keep the stage of the microscope level so the stain does not drain from the slide. Switch to the medium power, and eventually to the high power. Please be careful!

Observations and Discussion:

1. Describe the shape of a single cell of an onion- skin.
2. Draw a group of 5 to 10 cells. Show how they are attached to one another. The "lines" that run between the cells are the *cell walls*. Label them on your drawing.
3. Describe the cytoplasm of a cell. Include colour and clearness. Does it move? The cytoplasm is bound by a membrane called the *cell membrane*. It is sometimes hard to see.
4. Describe the nucleus of a cell. Where are they found in the cells? Why do you think that the nucleus is found there?
5. The droplets in the cytoplasm are called oil droplets. Describe them. They give the onion its smell and make your eyes run.
6. Draw a single cell as seen under the higher power. Make it about 10 cm long. Label all the parts you saw: cell wall, nucleus, cytoplasm, cell membrane, vacuole, oil droplet.
7. Describe how the stain you used helped you to see cellular detail.