November 24, 2014

Onion Skin Cell: Lab

Purpose: To investigate the structure of onion cells and become familiar with some of the basic parts of the cell. This lab also provides practice for students to become more skilled in using the microscope.

Hypothesis: Under a microscope, there will be thin lines of skin under the microscope. The skin is expected to be kind of purple.

Materials:

onion slices	cover slip	possibly tweezers
microscope	pipette	handouts/worksheet
slides	beaker of water	iodine

Method/ Procedure:

1) Break a slice of onion
2) Obtain a glass slide and coverslip making sure they are clear and dry
3) Using a pipette, place one drop of water near the center of the glass slide. The water is called a mounting medium. It helps produce a clear image.
4) Hold a piece of onion skin scale so that the concave (inner) surface faces you. Then snap it backwards. There should now be a very thin transparent skin or epidermis on the concave side.

Procedure Continued:

5) Use your fingernails to pull off the piece of epidermis.
6) Place the skin in the drop of water. Avoid wrinkling of the skin. If wrinkles develop, use tweezers or a probe to gently unwrinkle it without tearing it.
7) Position a coverslip over the top of the skin
8) Examine the specimen under low power (total magnification of 40x) Adjust lighting and focus as necessary. Draw a diagram...
9) If necessary move the slide around to find the best group of cells that clearly show the cell wall and nucleus.
10) Switch to medium power and again diagram what you see (total magnification 100x)

Conclusion:

Discussion Question

1) The general shape of the onion cells are rectangular.
2) Without the stain I saw less defined cells that were a very light purple. The nucleus was also visible with die.
3) I think there are so many cells close together because the skin is so thin they form a barrier to protect the cells.
4) The onion skin is composed of many cells close together.

5) It is easier to see the onion cells after they were stained because the shapes were clear and darker so they were easier to see and the nucleus is visible

6) The function of the cell wall is to protect and support the cell.

7) In my diagram there are about 100 cells under low power and about 20 under a higher magnification. There are about 80 more cells in a lower power under a microscope.