

Lab 3: Plant and Animal Cells

Part 2: Examining different cells. Use micro viewer set #58 and the computer to view the following cells

Procedure:

1. Examine the cork cells in slide 1 of the micro viewer set

- a) In one sense Robert Hooke "discovered" the cell and in another sense he did not. Explain
- b) What is unique about the part of the cell that Hooke observed?

2. Slide 2: Onion

- c) How many nuclei are present in each cell?

3. Use a microscope to view the prepared slide of ulothrix

- d) What two pieces of evidence could you use to show that this is a plant cell?
- e) What organelle is probably responsible for the green color? What is its function?

4. Slide 4: Cheek cells

- f) Name the three cell parts visible in these cells
- g) Why are most organelles not visible?

5. Slide 5: Blood Cells. You should also view the red and white blood cells at the "cells alive" and "nanoworld" websites

- h) The computer images are taken with what type of microscope?
- i) How do the structure of the red and white blood cells differ?
- j) The lack of a nucleus prevents the red blood cells from performing what function?

6. Slide 6: Nerve cells. You should also view the neuron at the "microangela" website.

- k) What is unusual about nerve cells with respect to cell size and shape?
- l) How would the shape be related to their function?

7. Slide 7: Bacteria. Note that bacteria are currently placed in the Kingdom Monera because they lack a true nucleus.

- m) What is the term for a cell which lacks a nuclear membrane?
- n) Using some reference find out what "plant like" structural characteristic is present in bacterial cells.

Conclusion: Explain why all cells have the same basic structure but individual cells within a multi-cellular organism may be significantly different in structure