Viewing Cells

Background:

*Important Figures in Cell History:*

Robert Hooke was an English scientist who looked at a thin slice of cork (oak cork) through a compound microscope. He observed tiny, hollow, room-like structures that he called 'cells' because they reminded him of the rooms that the monks lived in. He only saw the outer walls (cell walls) because cork cells are no longer living.

Anton van Leeuwenhoek (1674) was a Dutch fabric merchant and amateur scientist. He looked at blood, rainwater, and scrapings from teeth through a simple microscope (one lens). He observed living cells and improved the quality of the microscope.

Matthias Schleiden (1838) was a German botanist who viewed plant parts under a microscope. He discovered that plant parts are made of cells.

Theodor Schwann (1839) was a German zoologist who viewed animal parts under a microscope. He discovered that animal parts are made of cells.

Rudolph Virchow (1855) was a German physician who stated that all living cells come only from other living cells.

*Cell Theory:*

Together, the discoveries of these scientists led to the development of the cell theory. The cell theory states that:

- Cells are the basic units of all life;
- All living things are made up of cells, and
- New cells are produced from existing cells.

*Objective:*

In this investigation, you will practice using the microscope, and then locate and draw a variety of cells and cell structures present in different organisms.

*General Procedure:*

Illustrate each cell in your science notebook.

**Viewing Cells - Analysis Questions**

1. Who first saw and named cells? Why are they named cells?
2. Were the bacteria larger or smaller than the other cells?
3. Did the protist cells appear more like bacteria, plant, or animal cells? Explain your answer.
4. In your drawings of plant and animal cells, what structures did you notice that were different? Explain your answer.
5. In the plant cells you observed, all the cells had a similar shape. The fish cells are circular in shape. Explain why you think the shapes might be different.