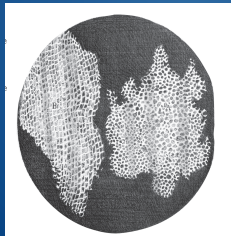


Chapter 7 Cell Structure and Function

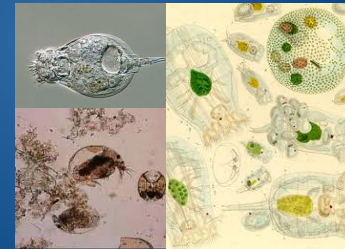
7-1 Life is Cellular

I. The Discovery of the Cell-

- A. In 1665, Robert Hooke viewed dead cork tissue under an early microscope which he named cells.

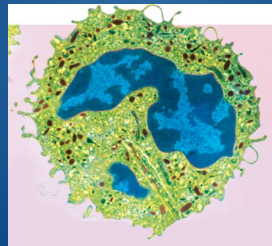


- B. In 1674, Anton van Leeuwenhoek observed microscopic living organisms in pond water.
C. Other scientists also discovered that other living organisms had cells thus a theory was developed



D. Cell Theory states:

1. All living things are composed of cells.
2. Cells are the basic units of structural and function in living things.
3. New cells are produced from existing cells.



II. Exploring the Cell-

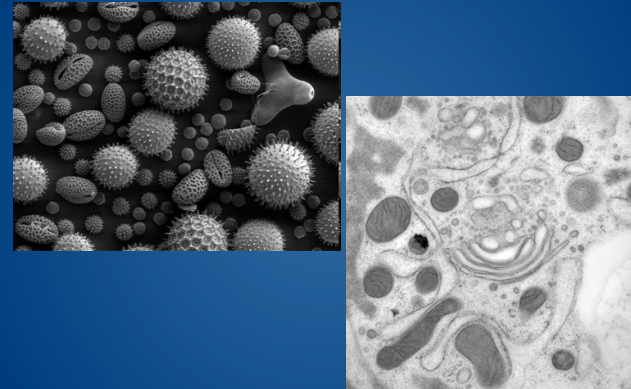
A. Light microscopes

1. uses light to magnify an image up to 1000 times
2. can observe living cells
3. is limited by resolution



B. Electron microscopes

1. can magnify an object up to 100,000 times by using a beam of electrons
2. only dead specimens can be viewed
3. Transmission electron microscope (TEM) can show inner cell structures
4. Scanning electron microscope (SEM) can show cell surfaces



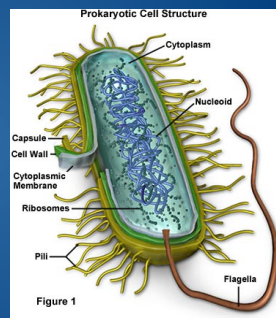
III. Prokaryotes and Eukaryotes-

- A. All cells have a cell membrane and DNA

B. **Prokaryotes (before nucleus)**

1. smaller
2. simpler cells
3. do not have their DNA enclosed in a nucleus

Example: bacteria



C. **Eukaryotes (true nucleus)**

1. usually larger
2. more complex cells
3. house their DNA in a nucleus

Examples: plants, animals, fungi and protists

