

Chapter 3.1-3.3

3.1

Micrometer

- 1/1000th of a millimeter, the common unit for professional

microscopes

Cell

- the basic unit of life

Magnification

- ratio between observed size and actual size

Resolution

- ability to distinguish between 2 adjacent points

Compound Light Microscope

- a set of glass lenses and light rays passing through to magnify

Transmission Electron Microscope

- uses a stream of electrons to produce a magnified image

Scanning Electron Microscope

- 3dimensional view of the surface of an object

All living things are made up of cells as it is the basic unit of life. Microscope technology is the reason that we are able to study cells to this detail.

3.2

Prokaryotic Cells

- cell that lacks a membrane-bound nucleus and organelles

Eukaryotic Cells

- cell that has a membrane-bound nucleus and membranous organelles

Plasma Membrane

- membrane surrounding the cytoplasm that consists of a phospholipid bilayer with embedded proteins

Selectively Permeable

- having degrees of permeability

Cytoplasm

- contents of a cell between the nucleus and the plasma membrane that contains the organelles

Organelles

- small membranous structure in the cytoplasm of eukaryotic cells having a specific structure/function

The plasma membrane forms the outer membrane of the cell to regulate what enters/exits the cell.

Nucleus: through invagination of the plasma membrane

Mitochondria and chloroplast: by engulfing the prokaryotic cells

3.3

Fluid-mosaic Model

- model for the plasma membrane based on the changing location and pattern of protein molecules

Diffusion

- movement of molecules or ions from a region of higher to lower concentration

Osmosis

- diffusion of water from an area of high to low concentration through a selectively permeable membrane

Facilitated Transport

- use of a plasma membrane carrier to move a substance in/out of a cell from high to low concentration

Active Transport

- movement of a molecule across a plasma membrane from an area of lower to higher concentration

Sodium-Potassium Pump

- carrier protein in the plasma membrane that moves sodium ions out and potassium ions in the cell