

Chapter 7 Learning Objectives:

Membrane Features:

1. Describe the general arrangement of the fluid mosaic model of the plasma membrane including:
 - a. Core structures
 - i. Phospholipids
 1. The phospholipids helps with protecting the cell from the fluids
 - ii. Proteins
 1. There are in the integral proteins and the peripheral proteins.
 - b. Accessory structures
 - i. Cholesterol
 - ii. Carbohydrates
 1. They bond with proteins and lipids
 - iii. Cytoskeletal filaments
2. Describe the properties of phospholipids, their unique arrangement in cell membranes, and their functions within a membrane
 - a. They have a hydrophobic tail and a hydrophilic head. The function of the phospholipids is to form the membranes that surround the cell and intracellular organelles such as the mitochondria.
3. Describe the properties of proteins, their unique arrangement in cell membranes, and their functions within a membrane
 - a. Properties
 - i. There are two different proteins, the integral and peripheral
 1. The integral goes through the membrane
 2. The peripheral does not go through the membrane
 - b. Functions
 - i. The purpose of the protein is so that the cell keeps its shape and help strengthen it
 - ii. Also the protein helps with the direction that the cell moves in
4. Describe how carbohydrates contribute to membrane structure and function.
 - a. Carbohydrates contribute to the membrane structure by bonding with proteins and lipids and help with cell recognition
 - b. Function
 - i. The function is that they allow for cell recognition.
5. Describe the factors that affect the selective permeability of cell membranes.
 - a. The factors that affect the selective permeability of cell membranes are temperature, polarity, electric charge and molar mass of the molecules that diffuse through it