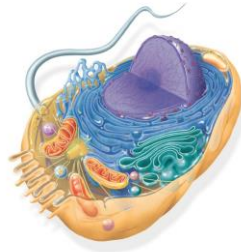
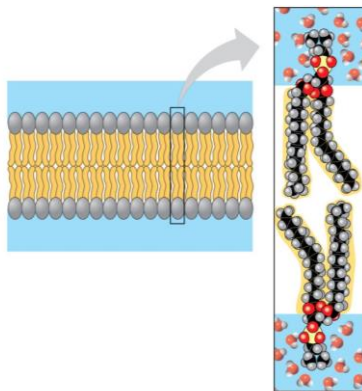


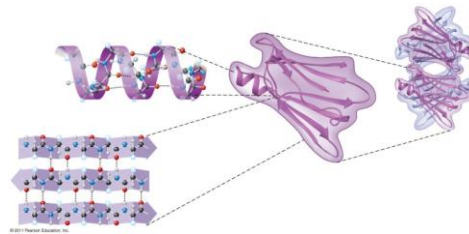
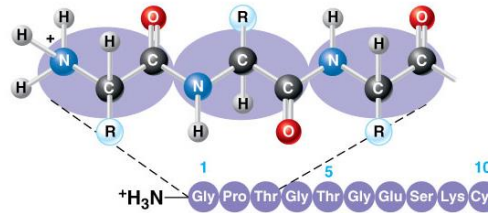
The Plasma Membrane



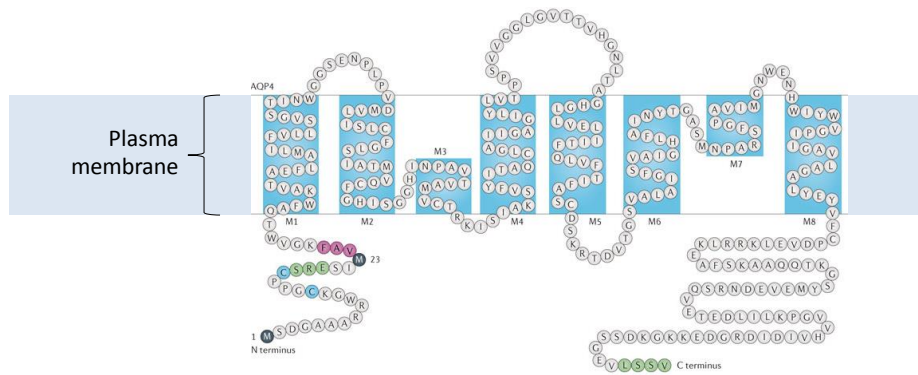
Membrane Structure



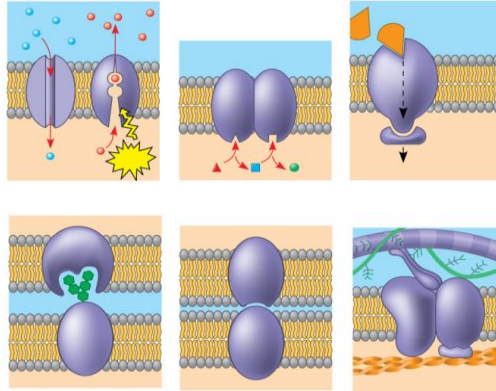
Protein Structure



Proteins in the Membrane

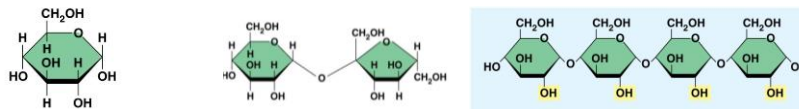


Proteins in the Membrane



Carbohydrates near the Membrane

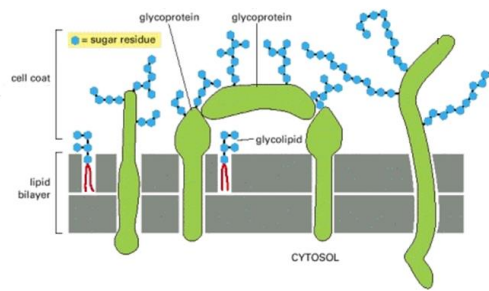
Definition of carbohydrates:



“glyco” =

Carbohydrates near the Membrane

As glycolipids and glycoproteins:



Functions:

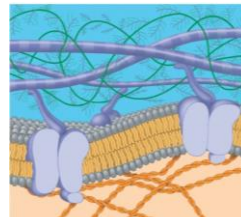
Extracellular Matrix

Function:

1. Holds cells together
2. Migration pathway during development

Important molecules:

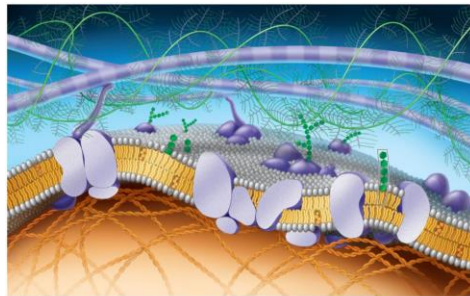
1. Proteoglycans
2. Collagen fibers
3. Fibronectin
4. Integrins



Vocabulary of the Plasma Membrane

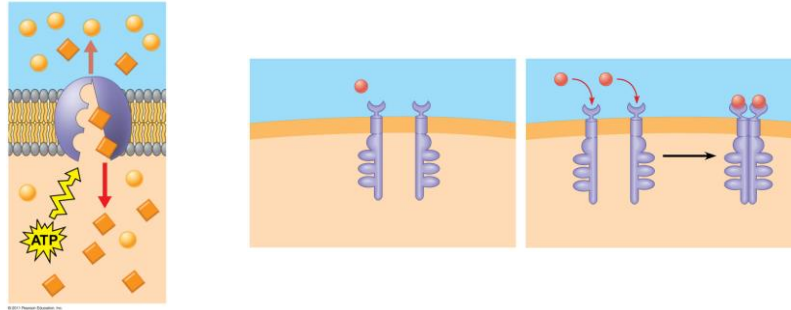
1. Lipids – main fabric of the membrane
 - Phospholipids:
 - Glycolipids:
 - Cholesterol:
2. Proteins – transport, cell recognition, many other functions
 - Integral protein:
 - Peripheral protein:
3. Carbohydrates – cell recognition, anchor cell in tissue
 - Glycoproteins:
 - Glycolipids:

Membranes are Complex



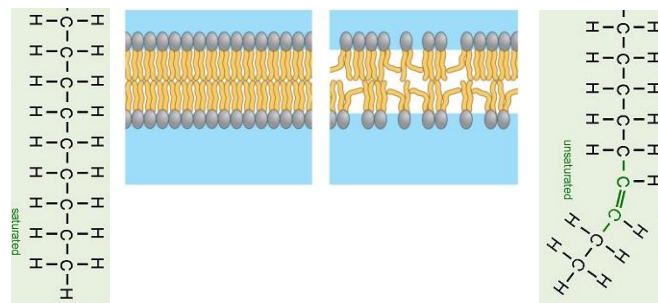
Membranes are Fluid

Proteins move in the membrane.



Factors Affecting Fluidity

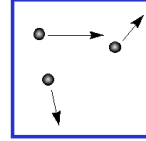
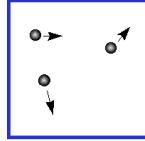
1. Saturation of phospholipids



More unsaturated lipids =

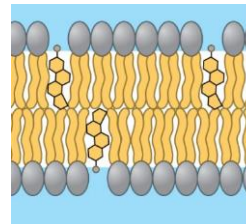
Factors Affecting Fluidity

2. Temperature



Factors Affecting Fluidity

3. Cholesterol



At very cold temperatures (near 0 °C):

Prep for Basics Quiz

Can you do the following?

- Define the structural molecules in the membrane
- Describe examples of membrane lipids, proteins and carbohydrates
- Explain how proteins vary from each other based on R group
- Label the parts of a membrane from memory
- Describe the four parts of the extracellular matrix
- Explain how the three named factors affect fluidity