

Cell membranes

BIO.5	I can develop and use a model to illustrate the hierarchical organization of interacting life systems that provide specific functions. NGSS.HS.LS1-2
BIO.5.1	I can list and explain the characteristics of life.
BIO.5.2	I can compare cells by type (pro/eukaryote, animal/plant).
BIO.5.3	I can explain the structure and function of plasma membranes.
BIO.5.4	I can define and model active and passive transport.
BIO.5.5	I can define homeostasis and give an example
BIO.5.5	I can explain and link the terms and concepts relating to the principles of cellular structure and function.
BIO.5.6	I can provide evidence towards the growth in my understanding of principles of cellular structure and function.

Proteins,
The lipid bilayer,
markers.

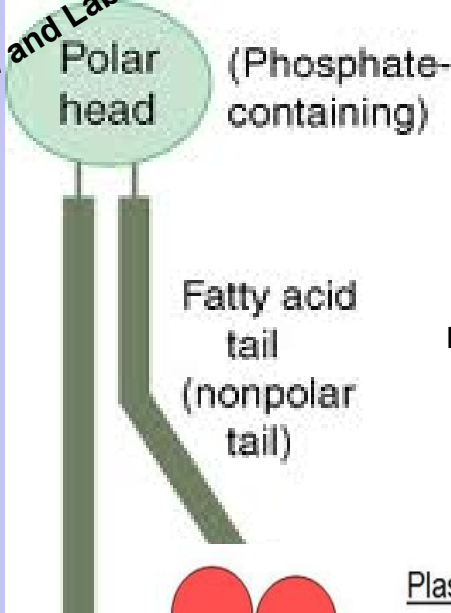
Plasma(Cell) Membranes

2 Functions

- 1. forms boundary-separates cell from surroundings
- 2. selectively permeable--only lets certain things in and out of the cell

Structure * Made of phospholipids

Draw and Label This

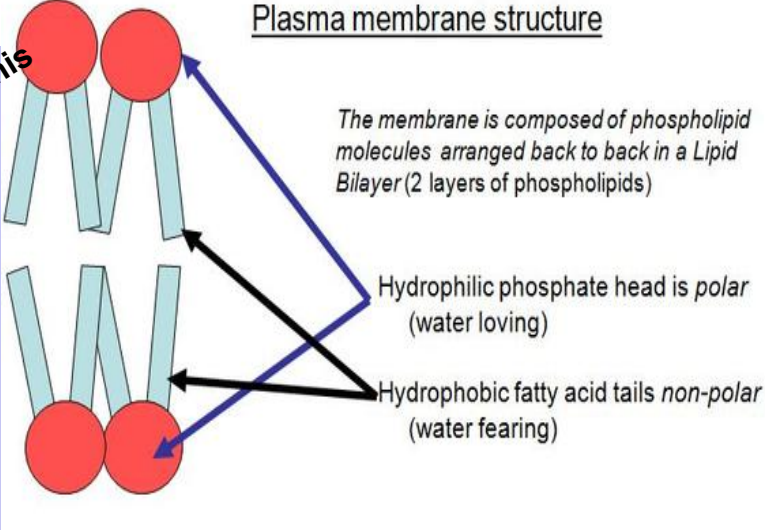


Hydrophilic - "water loving"

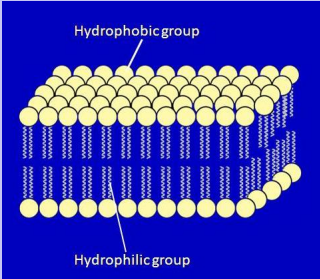
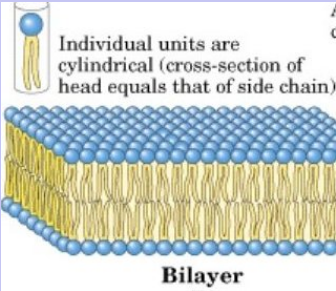
Hydrophobic - "water fearing"

rawing)

Draw and Label This

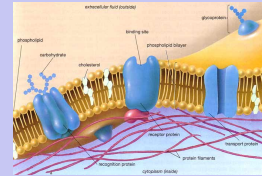


*** Lipid bilayer-2 layers of phospholipids**



Membrane Proteins

How proteins stay in membrane:

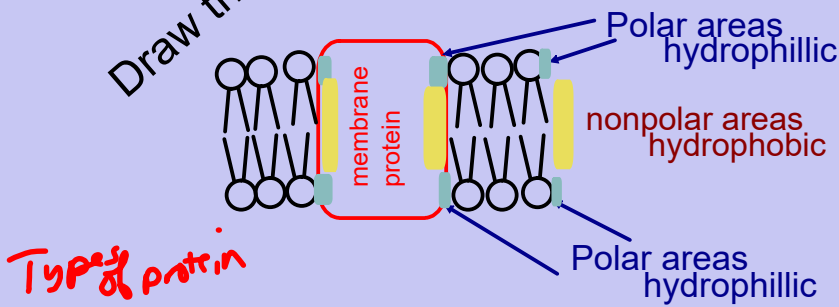


parts of proteins are **polar** and other parts of protein are **nonpolar**

attaches to the **polar part** of lipid bilayer - due to charges

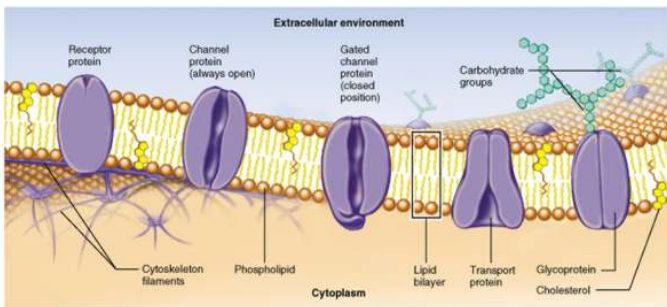
attaches to the **nonpolar part** of lipid bilayer - repelled by charges

Draw this

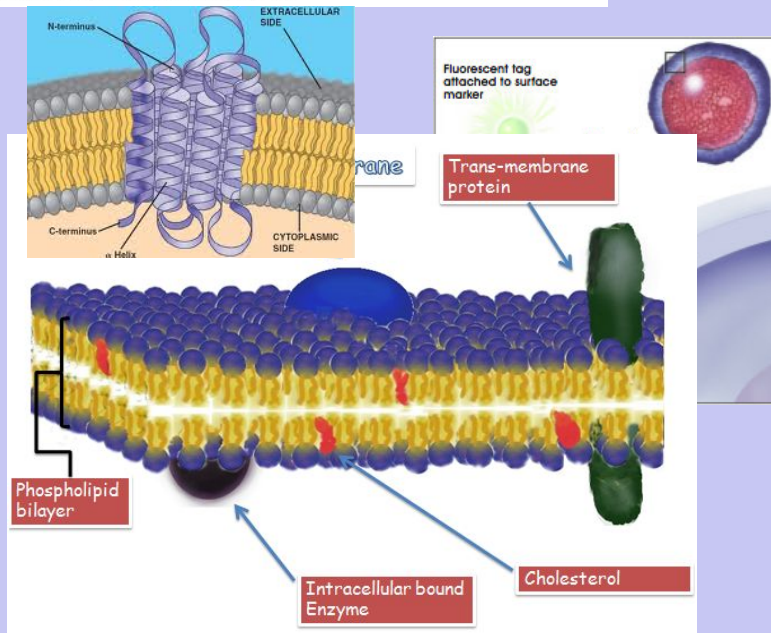
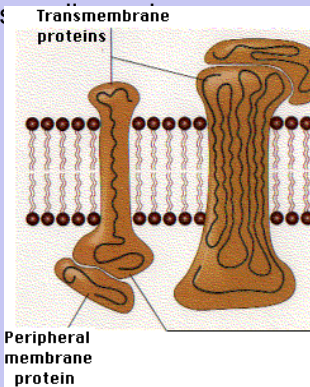


Types of protein

1. Transport protein: helps substances move across

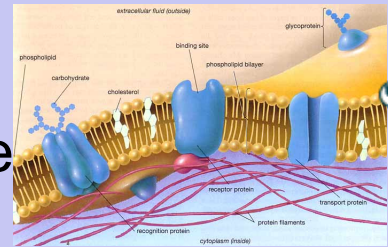


Copyright © 2001 Benjamin Cummings, an imprint of Addison Wesley Longman, Inc.

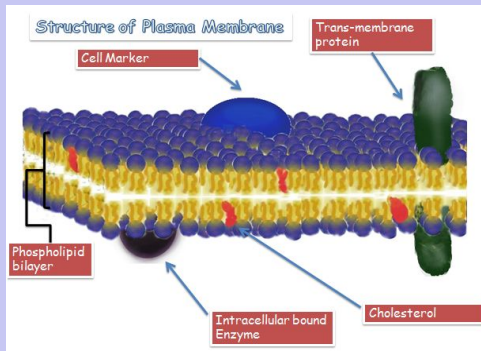


Membrane Proteins

Types of proteins in the membrane



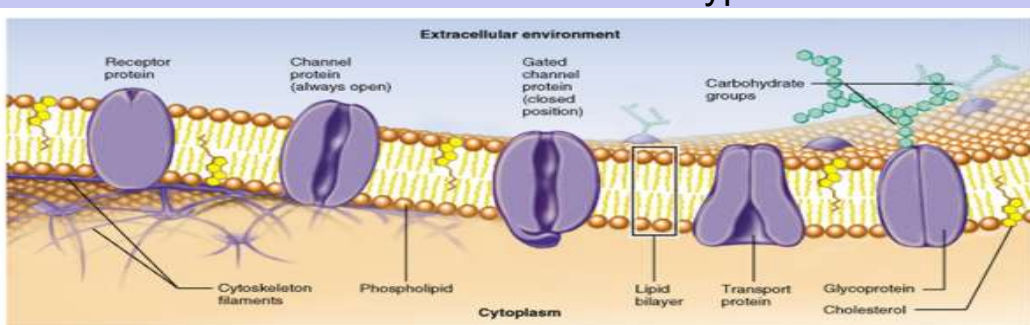
1. **Transport protein:** helps substances move across cell membrane



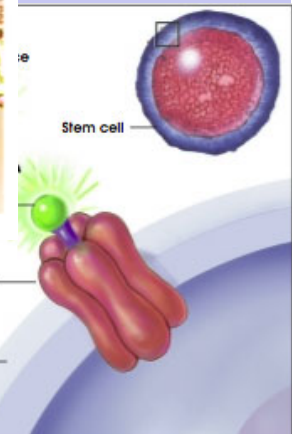
2. **Receptor protein:** recognizes and binds to substances outside the cell

3. **Enzyme:** assists chemical reactions inside the cell

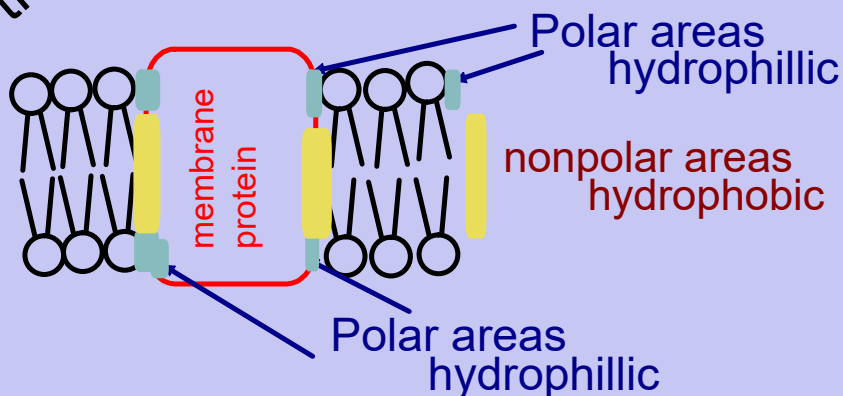
4. **Cell-surface marker:** identifies cell type



Copyright © 2001 Benjamin Cummings, an imprint of Addison Wesley Longman, Inc.



Draw this



	define	picture
1. plasma membrane		
2. selectively permeable		
3. phospholipid		
4. lipid bilayer		
5. hydrophilic		
6. hydrophobic		
7. polar		
8. nonpolar		
9. transport protein		

1. Draw a phospholipid.

Label: polar, nonpolar, hydrophilic, hydrophobic

2. Draw a lipid bilayer with a trans-membrane protein.

3. What are the 2 functions of a plasma membrane?