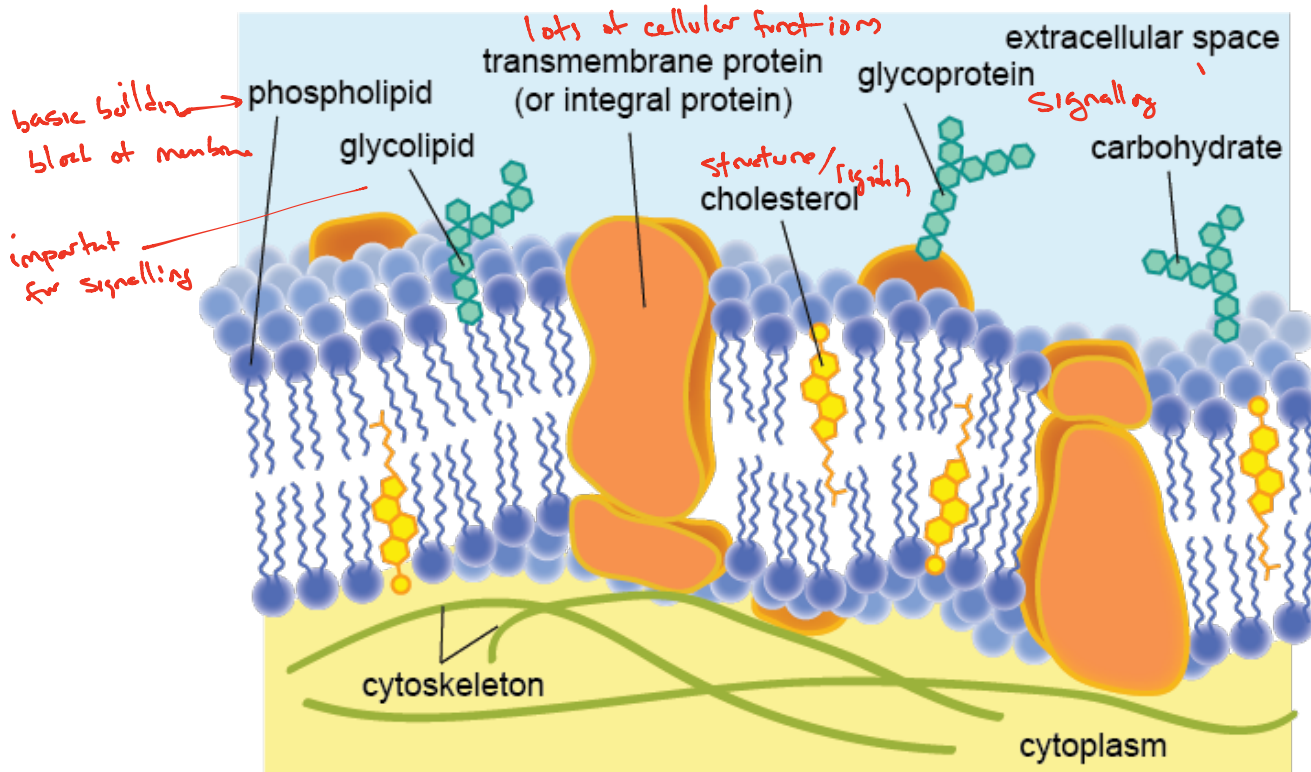


Use any resource at your disposal to answer these questions. Submit via course website prior to class Feb. 2nd.

1. There are three main classes of biological polymers – polypeptides, nucleic acids, and sugars. Please answer the following questions about these broad classes of molecules.
 - a. What is a polymer? *molecule built from lots of small building blocks*
 - i. What distinguishes a biopolymer from other polymers? *important in biology/ life*
 - ii. What is an example of a polymer that is not considered a biopolymer? *rubber*
 - b. What is the building block of each polymer listed below?
 - i. Protein *amino acids*
 - ii. DNA *nucleic acids*
 - iii. Starch *sugar (glucose)*

2. Sugars are commonly found as two-sugar “units” called disaccharides. For each of the following common disaccharides, identify the two sugars that are part of the structure.
 - a. Lactose *glucose + galactose*
 - b. Maltose *glucose + glucose*
 - c. Sucrose *glucose + fructose*

3. Check out the image below. Investigate each piece of the cell membrane (e.g. cholesterol) and figure out what it is and what role it plays. On the course website, you’ll find a place to submit your answers.



4. What is meant by the term “membrane fluidity”? *The “looseness” of a membrane. fluid membranes allow components to move around*

5. There are 20 (or 22, depending on who you talk to) common amino acids used to make proteins. All of these have the “backbone” in common. Look up the structure of the amino acids and figure out how many carbon, nitrogen, and hydrogen atoms make up this backbone.

