

Plasma Membrane

Structure Identification

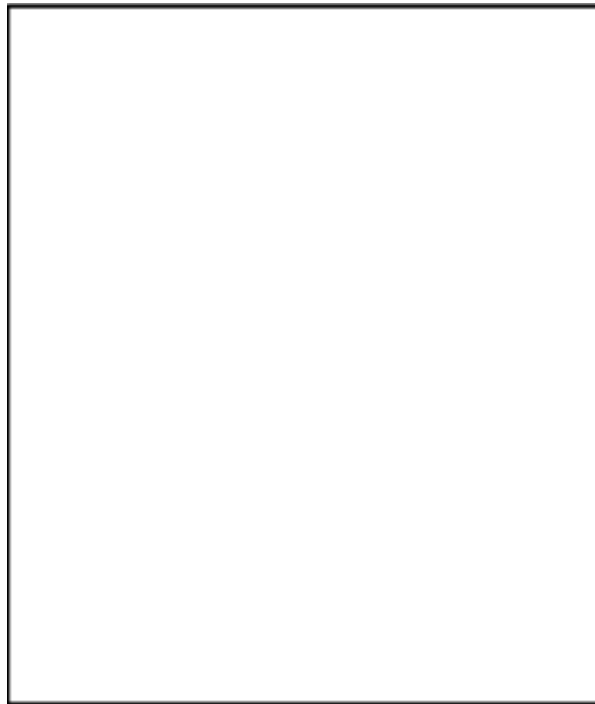
Learning Target

Explain the importance of the plasma membrane.

The cell membrane is also called the _____ membrane and is made of a phospholipid _____. The phospholipids have a hydrophilic (water attracting) _____ and two hydrophobic (water repelling) _____. The head of the phospholipid is made of _____, while the tail are chains of _____. Phospholipids can move _____ and allow water and other _____ molecules to pass through into or out of the cell.

Sketch and Label a phospholipid.

Make sure you label the hydrophobic and hydrophilic areas, and color the heads red and tails blue.



Embedded in the phospholipid bilayer are _____ that also aid in transporting materials into and out of the cell. Some proteins can have _____ attached to them which are used in cell signaling/identification.

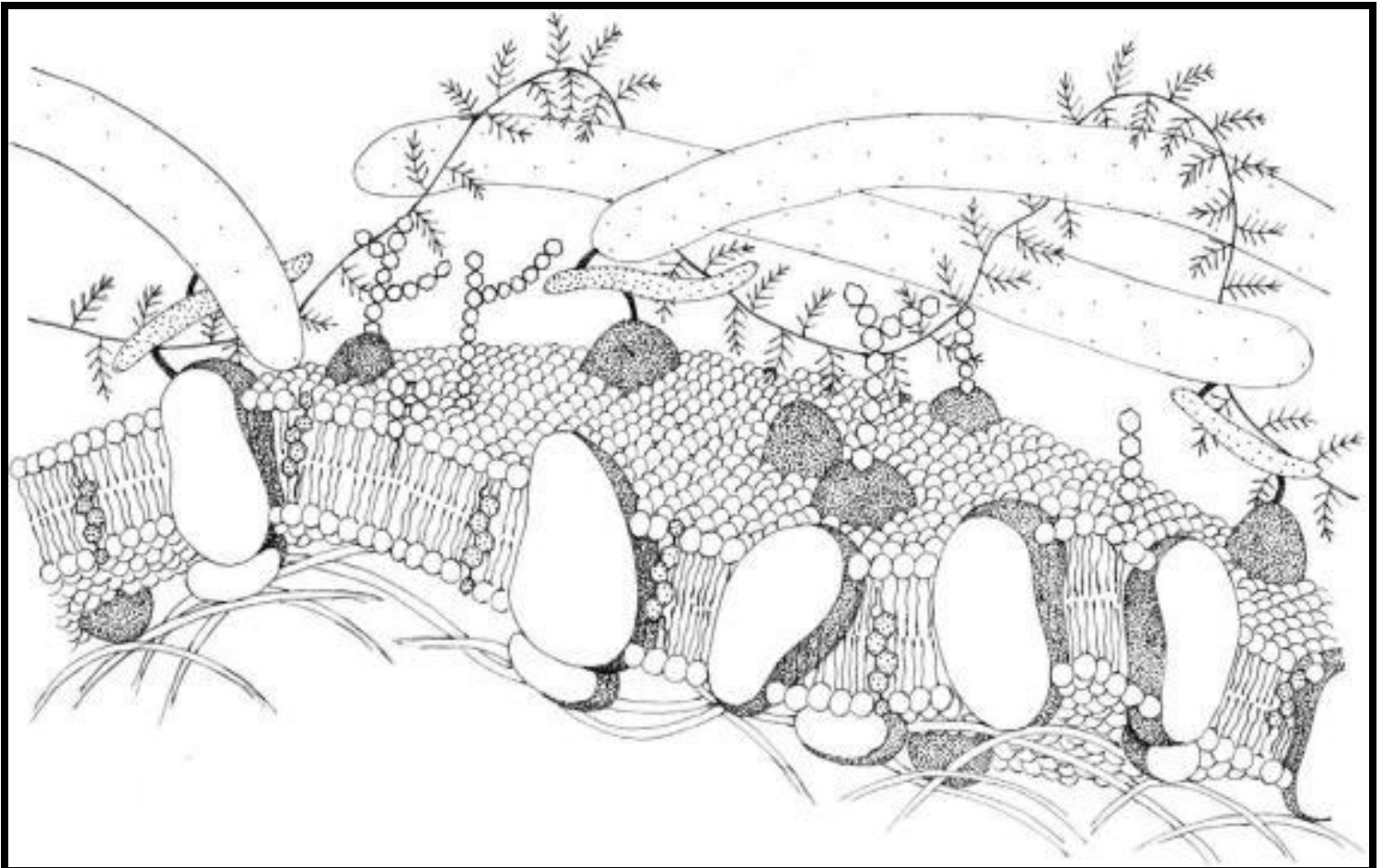
Color the diagram below. Color in the boxes next to each term for color-coding. Then, answer the review questions below.

Hydrophobic tails

Hydrophilic heads

Carbohydrates

Proteins



1. In the diagram above, label each side of the membrane (top and bottom) as “inside” and “outside” of the cell.
2. Which structure is present in plasma membranes but not represented in the diagram above? What is the function of that structure?

3. Define homeostasis. Use your textbook as a reference if needed.

4. How does the plasma membrane maintain homeostasis in living cells?

5. List the three types of organic molecules. Circle which are located in the membrane.

6. Which organic molecule makes up the majority of the plasma membrane?

7. Which characteristics of the plasma membrane allow it to be selectively permeable?

8. Determine whether each statement is true or false. If false, correct the statement.

- a. The plasma membrane is a single layer of lipid molecules.
- b. A phospholipid has a non-polar head and polar tails.
- c. The plasma membrane consists of lipids, proteins, carbohydrates and DNA.
- d. The phospholipid molecule is hydrophobic.
- e. The fluid mosaic model describes the plasma membrane as a rigid structure.
- f. Cell organelles, such as the mitochondria, are also enclosed by membranes.