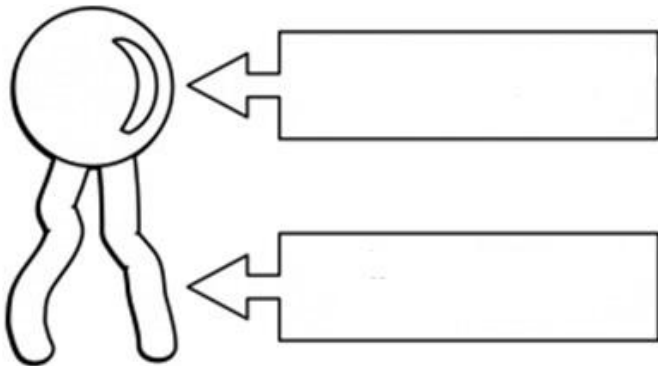
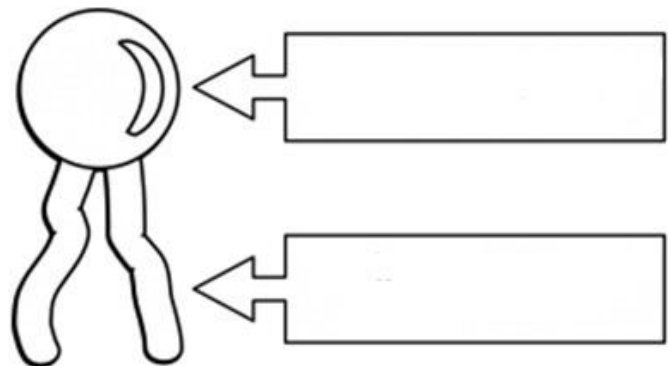


Fluid Mosaic Plasma Membrane Lab

1. Label the phosphate head and the lipid tails.
2. Identify and label the part that is hydrophilic (likes water) and the part that is hydrophobic (fears water)



A Phospholipid

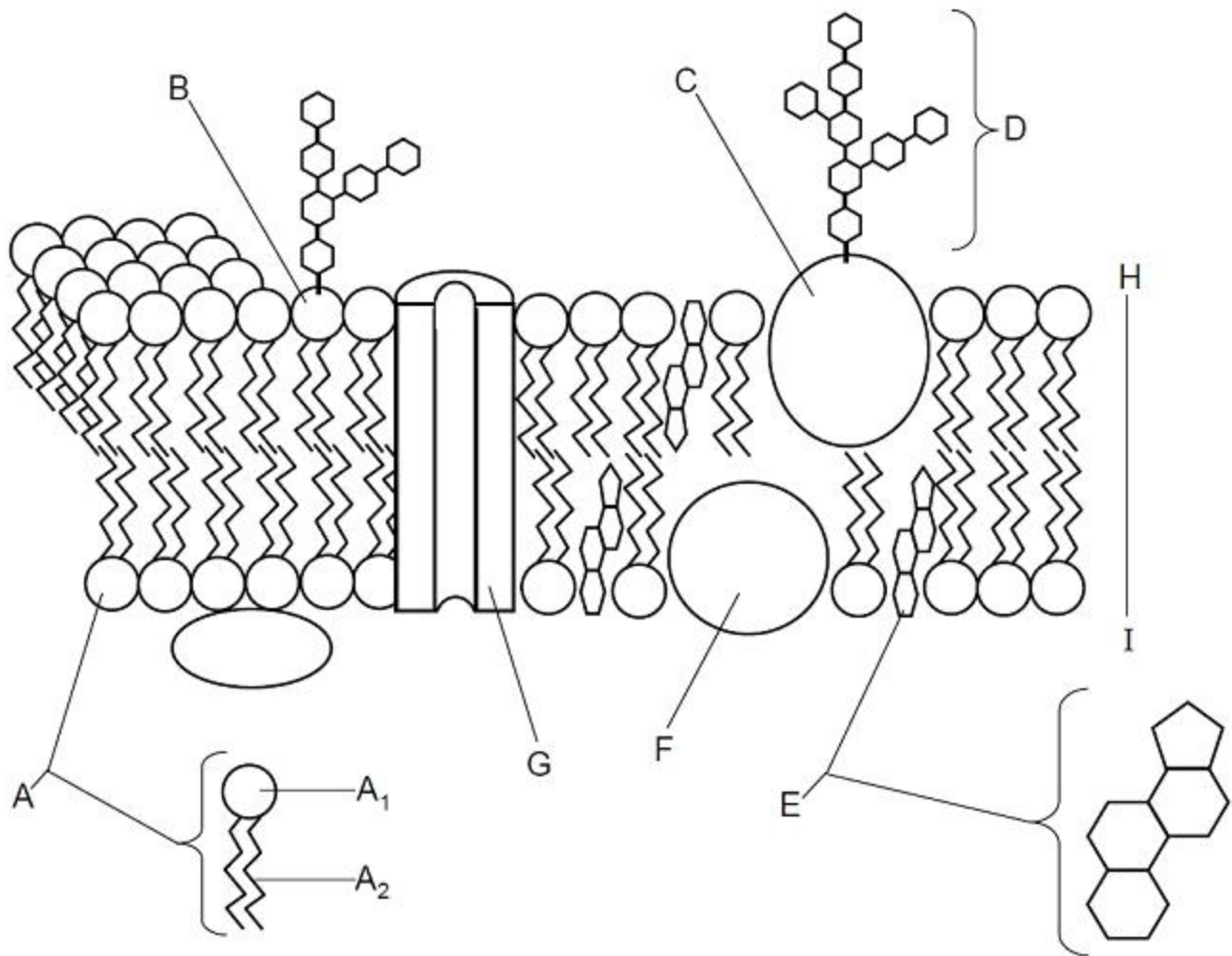


A Phospholipid

3. Create 30 phospholipids by breaking toothpicks in half and placing both halves into the marshmallows,
4. Create a bi-layer of phospholipids by placing 15 phospholipids on top and 15 phospholipids underneath, with the lipid tails in the center and the phosphate heads on the outside.
5. Some phospholipids, called glycolipids, have carbohydrates attached to their phosphate heads. These serve as identification markers, helping identify the cell to the body's immune system. Create a glycolipid by placing half a toothpick through a gummy sweet tart and attaching it to one phosphate head.
6. Interspersed throughout a plasma membrane are protein that carry out various functions.
7. Place one orange slice, vertically, in the middle of your phospholipids. This represents a channel protein through which material can move into and out of the cell without energy.
8. Place one cherry slice horizontally in the phospholipids. Push a red hot candy into the top of the fruit slice. This represents a protein pump that requires energy to transport material through the membrane.
9. Place a different candy fruit slice horizontally in the phospholipids. Place a toothpick through a gummy sweet tart and attach it to this candy slice. This represents a glycoprotein that serves as a identification marker to the body's immune system.
10. Place a toothpick through another gummy sweet tart and attach it to a phosphate head. This represents a glycolipid that also helps identify the cell.

10. Besides proteins, cholesterol is also dispersed through the plasma membrane. Cholesterol helps prevent the membrane from solidifying as temperatures decrease. Place jelly beans between the phospholipid tails to represent cholesterol.

11. Use your fluid mosaic model the help identify the various parts in the diagram below:



Match the terms to their structure on the membrane

- _____ Bi-layer of phospholipids
- _____ Phospholipid
- _____ Phosphate Head
- _____ Lipid tails
- _____ Glycolipid (identification marker)
- _____ Channel Protein (Transport)
- _____ Glycoprotein (Identification marker)
- _____ Cholesterol (Keeps the lipids from solidifying)
- _____ Carrier Protein (Transport)