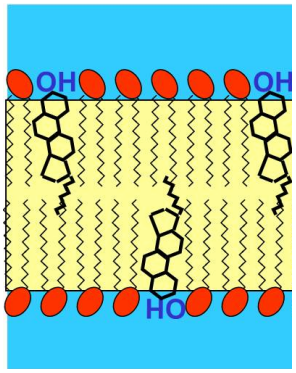
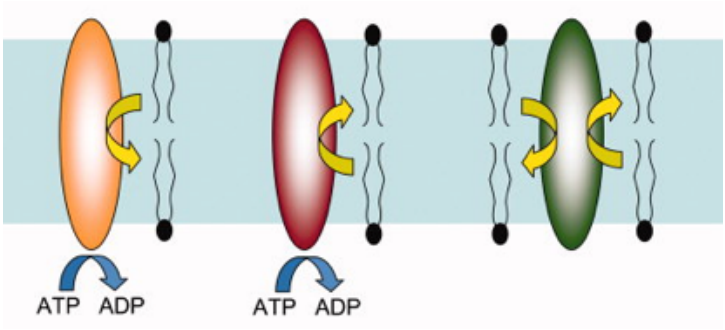
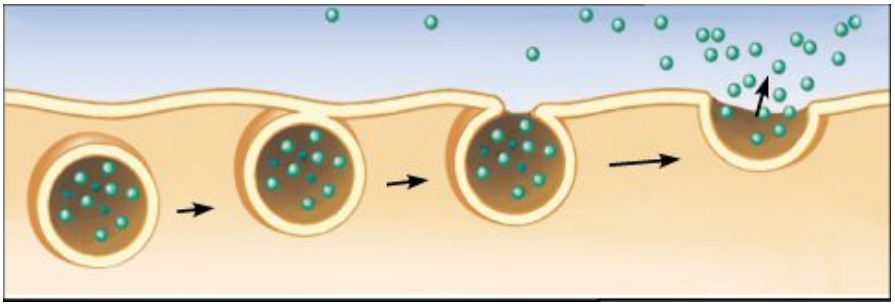
CONCEPT: MEMBRANE STRUCTURE

- The membrane is largely made up of proteins, phospholipids, and sterols
- Plasma membrane has a large amount of cholesterol, but internal membranes tend to have more phosphatidylcholine
- The membrane is a fluid, there are no covalent bonds between the membrane components
    - □ Phospholipids tend to move laterally, but it's rare for them to flip-flop
    - □ Flippase, floppase, and scramblease move phospholipids between the inner and outer monolayers
    - □ Membranes can have a crystal like state when cold





- There is an asymmetric distribution of phospholipids in the membrane
    - □ Phosphatidylethanolamine, phosphotidylserine, and phophotidylinositol tend to be found on the inner monolayer
    - □ Phosphatidylcholine and sphingomyelin tend to be on the outer monolayer
    - □ The distribution of phospholipids is different in internal membranes



- Composition of membrane lipids is related to the temperature of organism environment
    - □ More saturated fatty acids at higher temps
    - □ More Unsaturated fatty acids and cooler temps
    - □ Temperature affects the lateral diffusion of membrane phospholipids
- Rafts – areas of high sphingolipid and cholesterol concentration