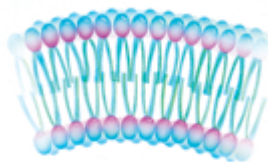


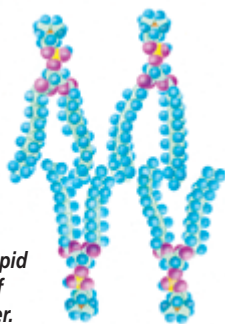


*This phospholipid molecule contains two fatty-acid chains.*

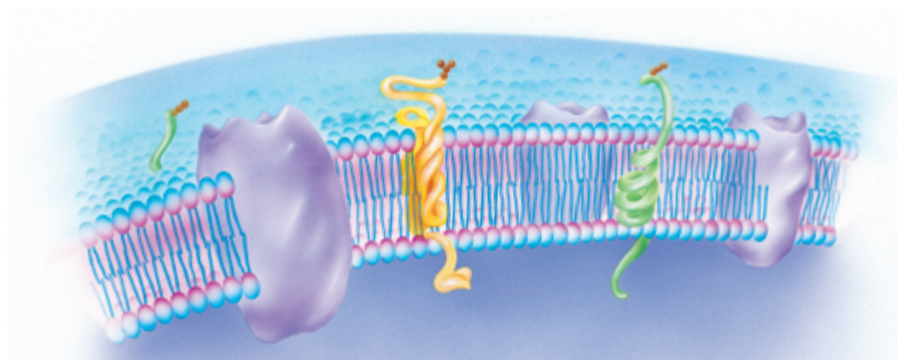


*The lipid bilayer is the framework of the cell membrane.*

*The fatty acids are oriented toward the interior of the bilayer because they have a low attraction for water.*



*This phospholipid chain is part of the lipid bilayer.*



molecules. The carbon-hydrogen bonds of a lipid's hydrocarbon chain are nonpolar, however. The polar end will dissolve in water, and the other end will dissolve in nonpolar organic compounds. This behavior enables fatty acids to form membranes when they are dropped into water. It also gives soaps and detergents their cleaning power.

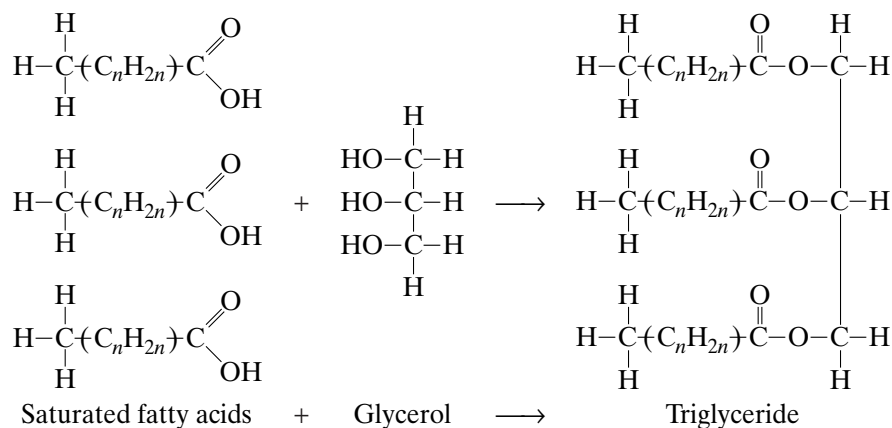
Lipids are the main compounds in biological membranes, such as the cell membrane. Because lipids are insoluble, the lipid bilayer of a cell membrane is adapted to keep the contents of the cell inside separated from the outer environment of the cell.

The structural component of a cell membrane is a phospholipid. The "head" of the phospholipid is polar,

and the fatty acid tails are nonpolar, as shown in the model above.

Most fatty acids found in foods and soaps belong to a class of compounds called triglycerides. The fat content shown on a nutrition label for packaged food represents a mixture of the triglycerides in the food. Triglycerides have the general structure shown below.

Fatty acids are usually combined with other molecules to form classes of biomolecules called glycolipids (made from a carbohydrate and a lipid) or lipoproteins (made from a lipid and a protein). These compounds are also parts of more-complex lipids found in the body.



*Triglycerides are made from three long-chain fatty acids bonded to a glycerol backbone.*