

Lipids

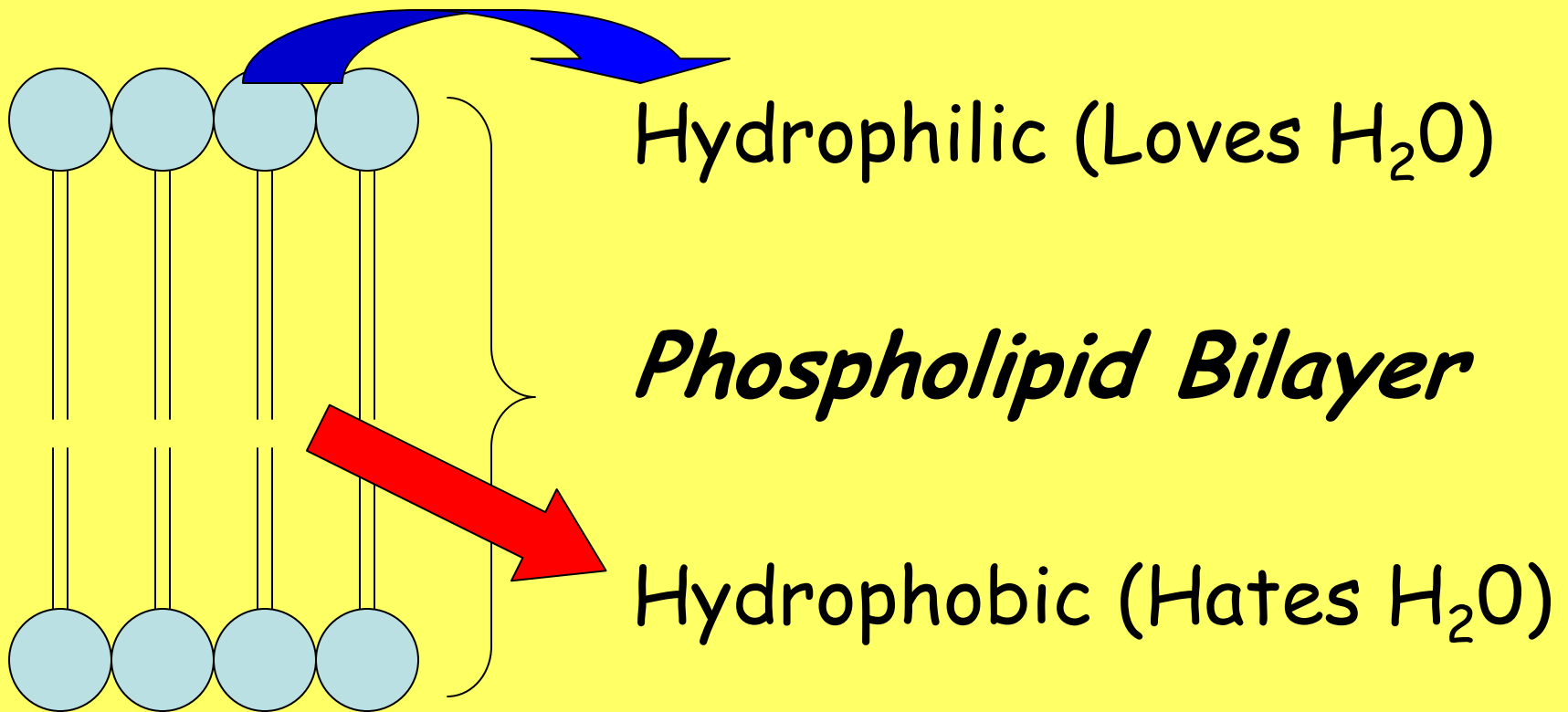


What elements make up lipids?

Lipids are large biomolecules that are made mostly of carbon and hydrogen with *small* amounts of *oxygen*.



Lipids





Name some examples of lipids.

Fats

Oil

Waxes

Steroids



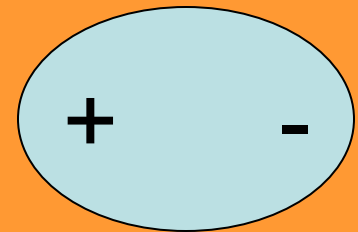
Explain why lipids cannot dissolve in water solutions?

❖ Lipids are insoluble in water because their molecules are nonpolar and are not attracted to water.

❖ Define *nonpolar*

▶ Equal distribution of charges
(same charge)

Lipid

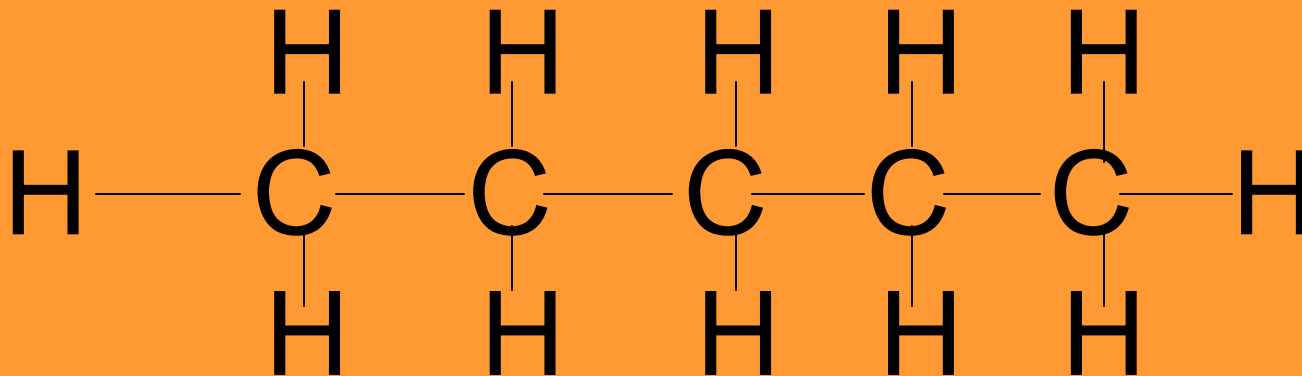


H₂O



Define *fatty acid*.

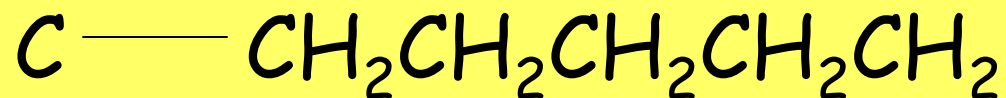
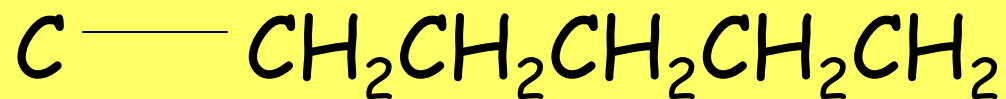
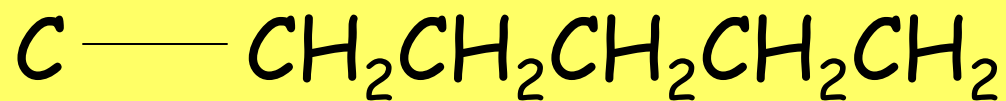
A fatty acid is a long chain of *carbon* and *hydrogen*.





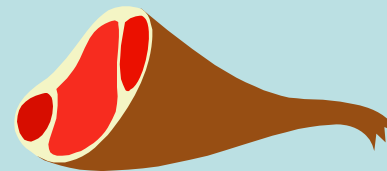
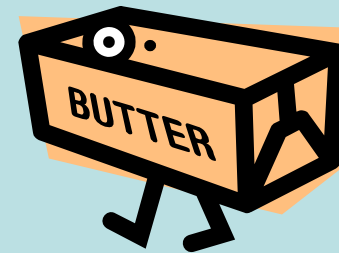
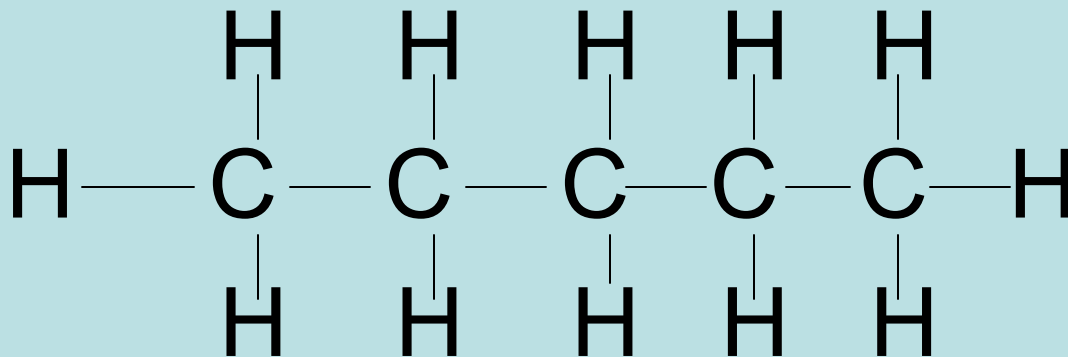
In Figure 6.20 (pg 160) describe the composition of a glycerol molecule.

A glycerol is a 3 carbon molecule that serves as a backbone for a lipid molecule. Attached to the glycerol are *3 fatty acid* groups.



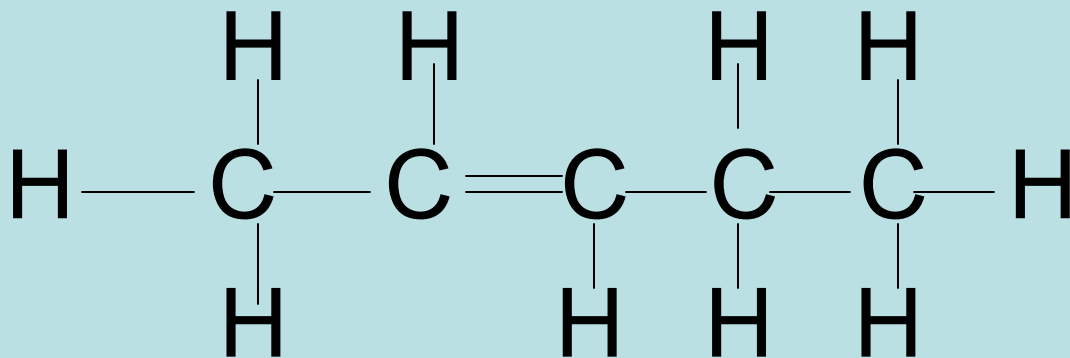
Fatty acids

- ❖ If each carbon in the chain is bonded to other carbons by single bonds....the fatty acid is said to be saturated.



Fatty acids

If a double bond is present in the chain, the fatty acid is unsaturated.





Functions of Lipids

- ☺ Are the major components of the membranes that surround all living cells
 - ▶ Structural Support
- ❖ Cells use lipids for energy storage
- ❖ Insulation
- ❖ Protective Coverings



What **primary disease(s)** can occur with having an **unbalanced** amount of lipids?

Heart Attack

Strokes

Diabetes

Cholesterol