

Lipids

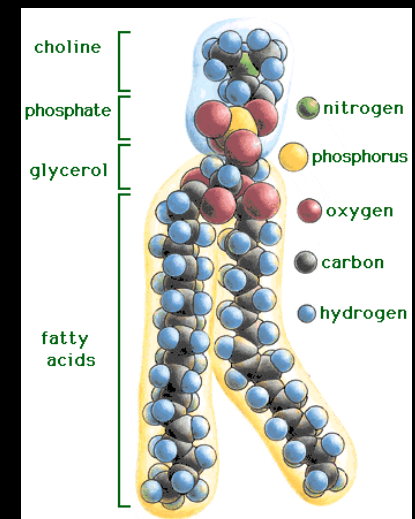


Learning Objectives

- Define the following terms: lipid, fatty acid, glycerol, hydrophobic, saturated, and unsaturated
- Compare and contrast saturated and unsaturated fatty acids

Examples of Lipids

- Fats
- Oils
- Waxes
- Phospholipids
- Steroids
- Vitamins

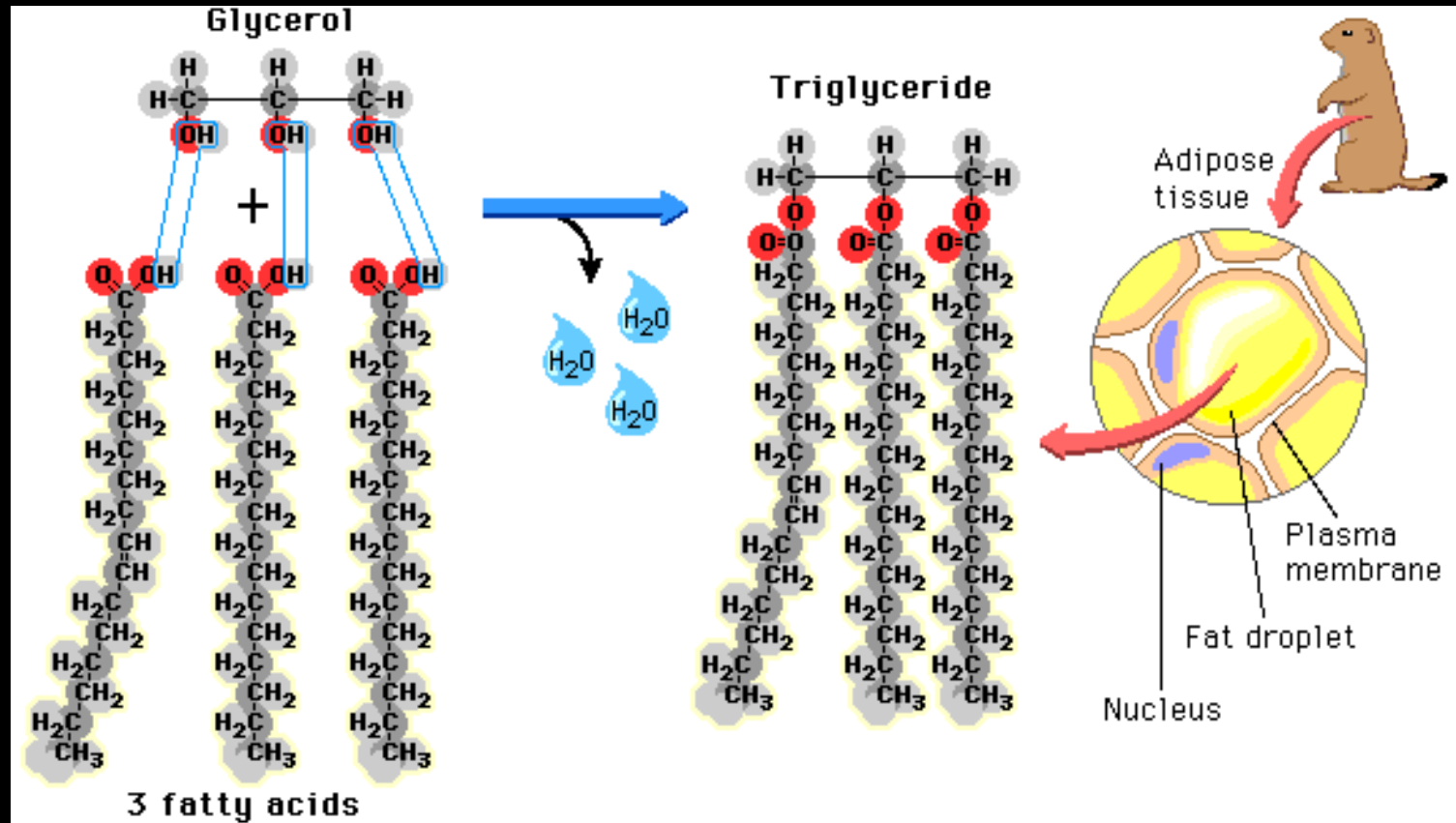


Characteristics of Lipids



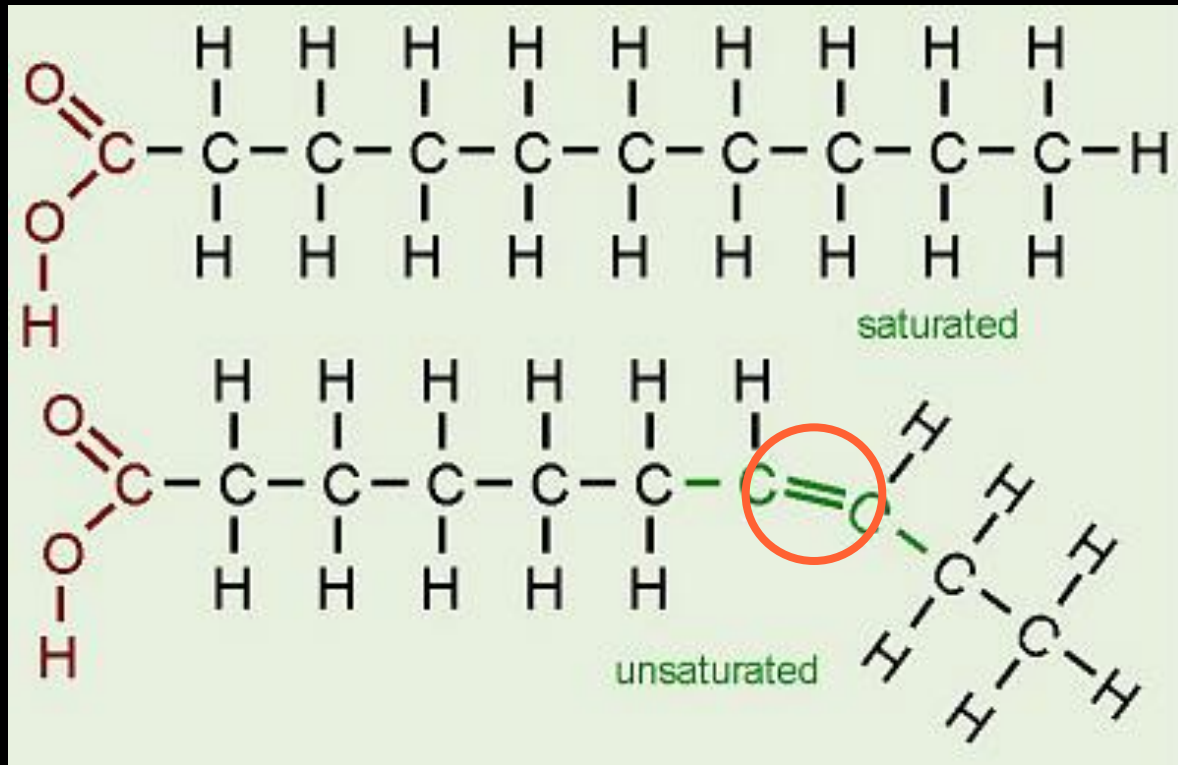
- Non-polar and generally insoluble in polar substances
- Hydrophobic – “fear” water

Monomer of Lipids



Lipid molecules are made up of 3 fatty acids and glycerol

Saturated vs Unsaturated Fatty Acids

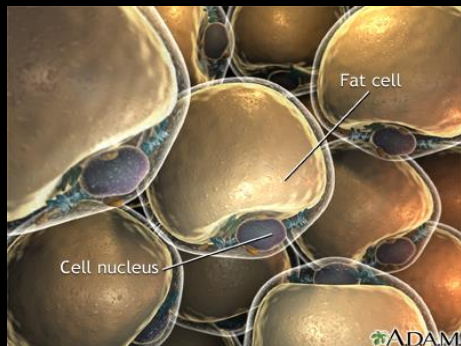


Saturated -
Carbons contain
the maximum # of
hydrogen atoms

Unsaturated - At
least one carbon-
carbon double
bond

Functions of Lipids

- Long-term energy storage - fats and oils
- Protection and insulation - fats
- Water-proofing - waxes
- Body function and control - hormones and cholesterol
- Structural - phospholipids, a major component of the cell plasma membrane



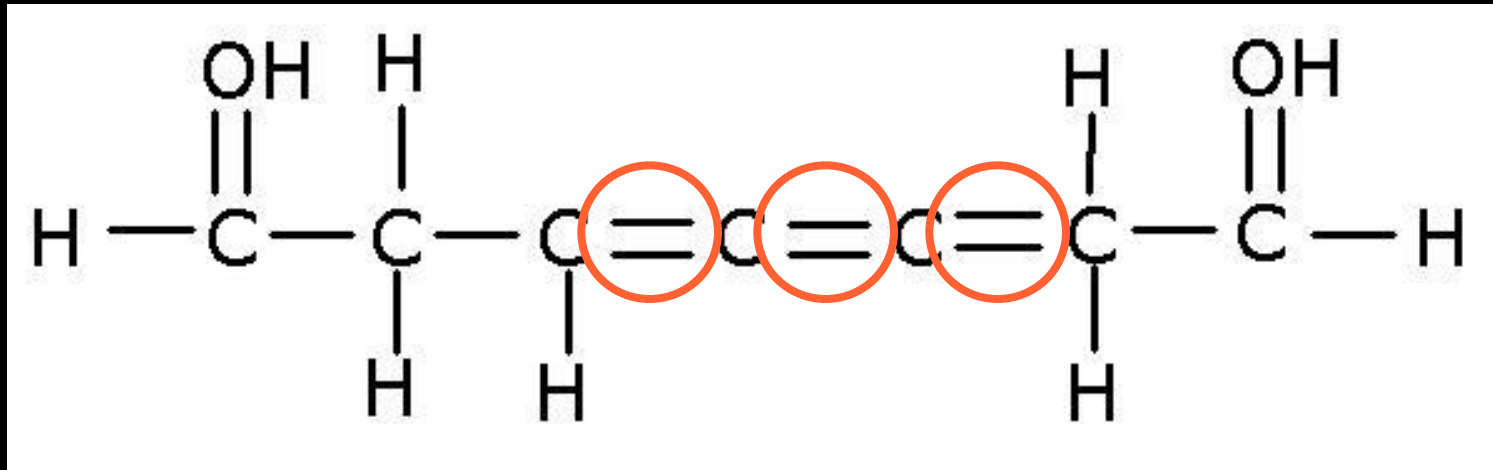
Why do elephant seals have
so much fat?



End of Lipids



Polyunsaturated Fatty Acid



Lipids whose fatty acid chains contain more than one double bond.