

You are what you eat

Unhealthy Choices



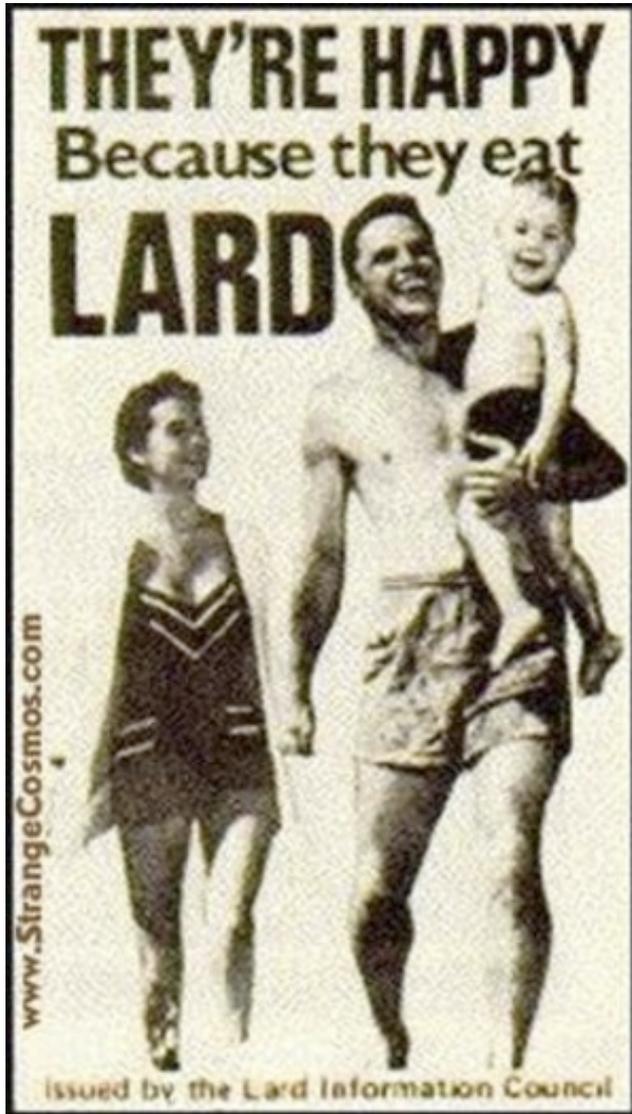
Healthy Choices



Biochemistry

– the study of organic macromolecules and how they function in living organisms

Day 2 Notes



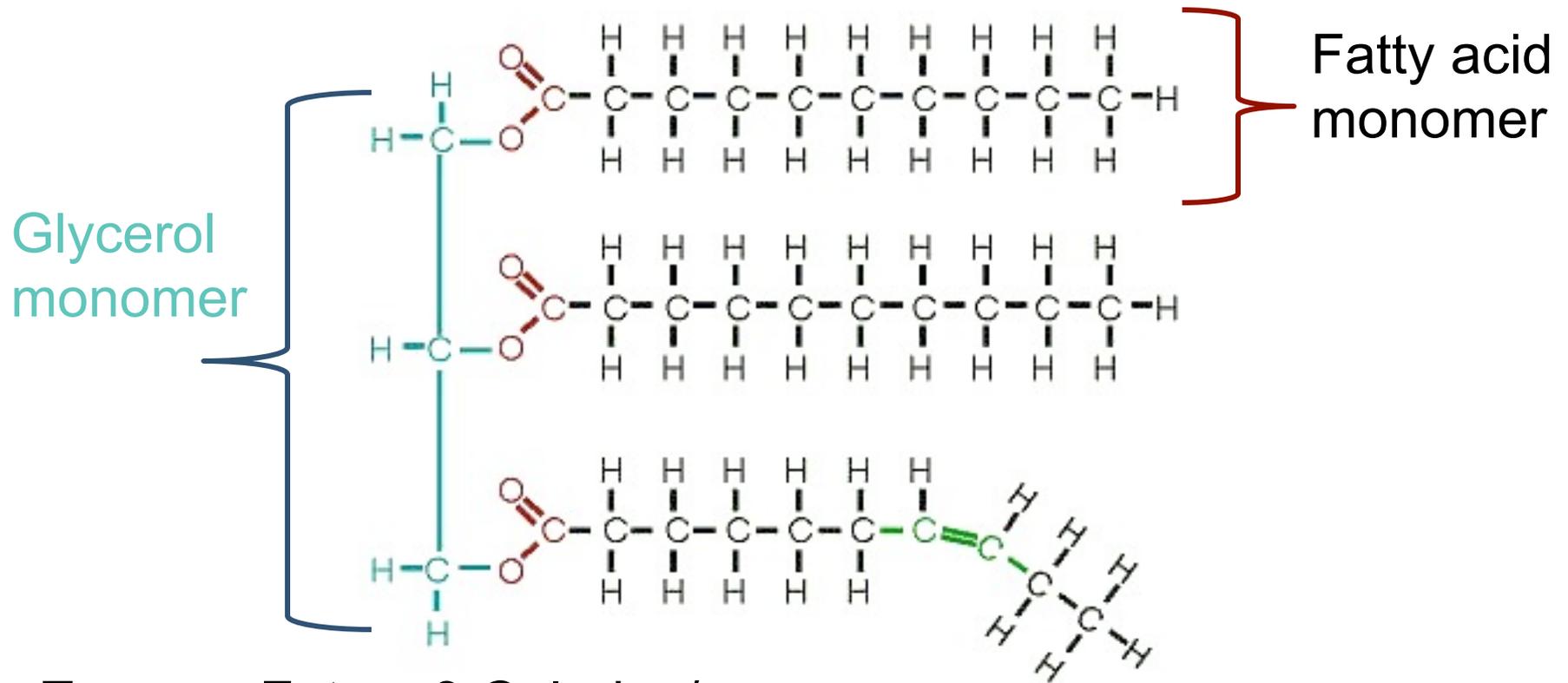
Lipids (Fats) are polymers made of fatty acid and glycerol monomers

Functions

- for long term stored energy,
- cell membranes,
- hormones,
- protective coatings,
- insulation

Found in: meat fat (bacon, sausage)
plant oils (olive oil, corn oil)
bees wax, butter

Only made of C, H, O atoms

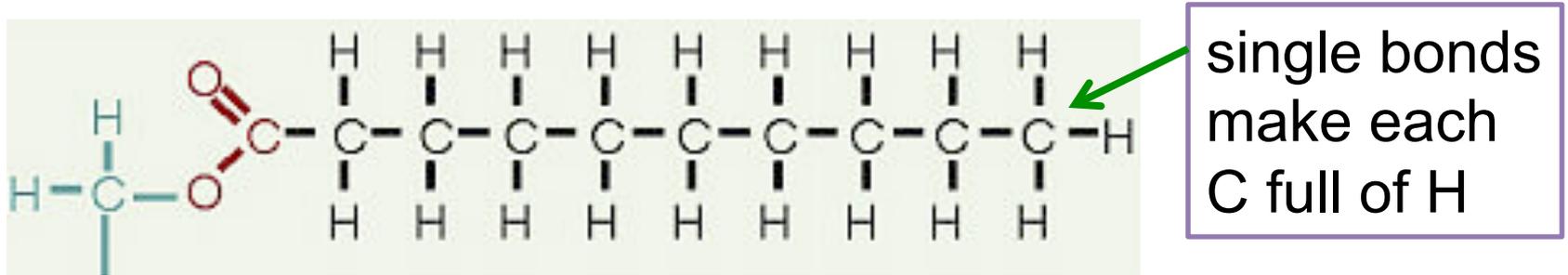


Energy Fats = 9 Calories/gram

Carbs = 4 Calories/gram

Energy is stored in the bonds -fats have more bonds closer together & thus more stored energy

Saturated fats, every C full with hydrogen (no double bonds)
solid at room temp; BAD animal fats

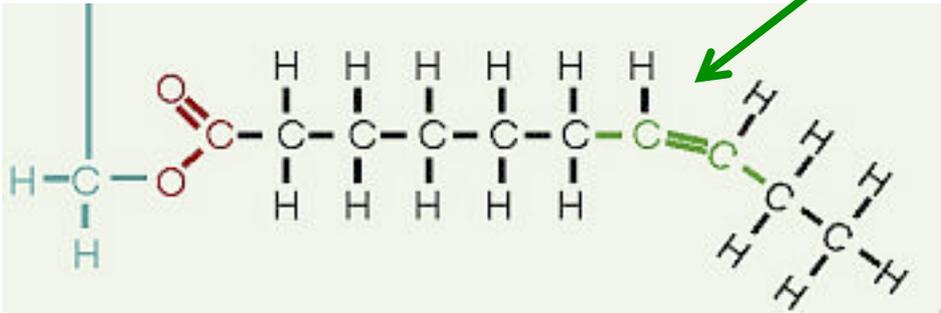


Warning: body stores these in blood vessels!



Unsaturated some C not full of H due to double bonds,
liquid at room temp; oils = GOOD plant fats

Bent fatty acid 'tail'
from double bond



FASHIONCHAT.INFO

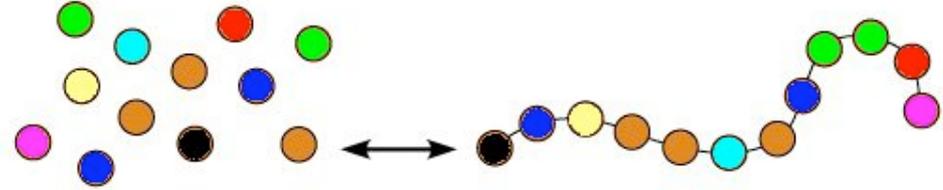


Trans Fats are made by hydrogenating unsaturated fats to break the double bonds



Proteins- polymers made of amino acid monomers

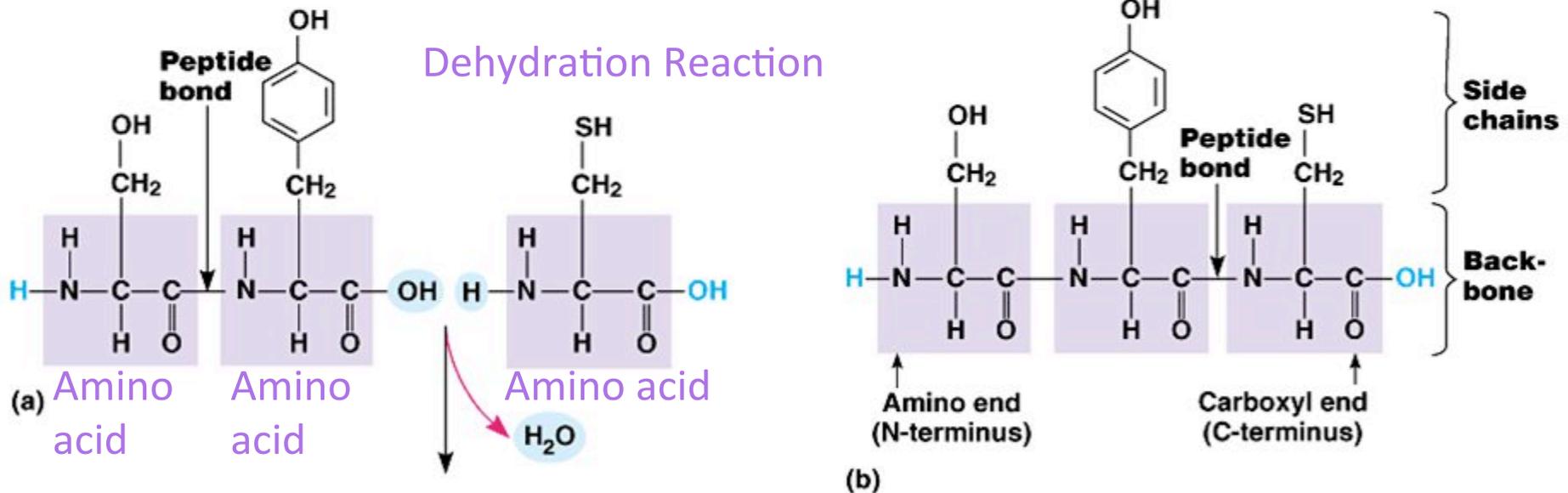
Made of: C, H, O, N atoms



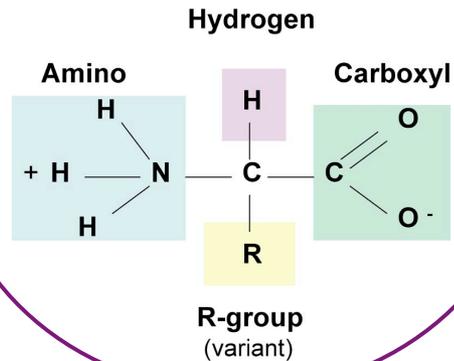
Amino acids

Protein molecule

- Functions:** Enzymes to run metabolism (amylase digestive enzyme in saliva)
Muscle fibers (actin & myosin)
Carry oxygen in blood (hemoglobin)
Cell markers for immune system defense (antigens & antibodies)



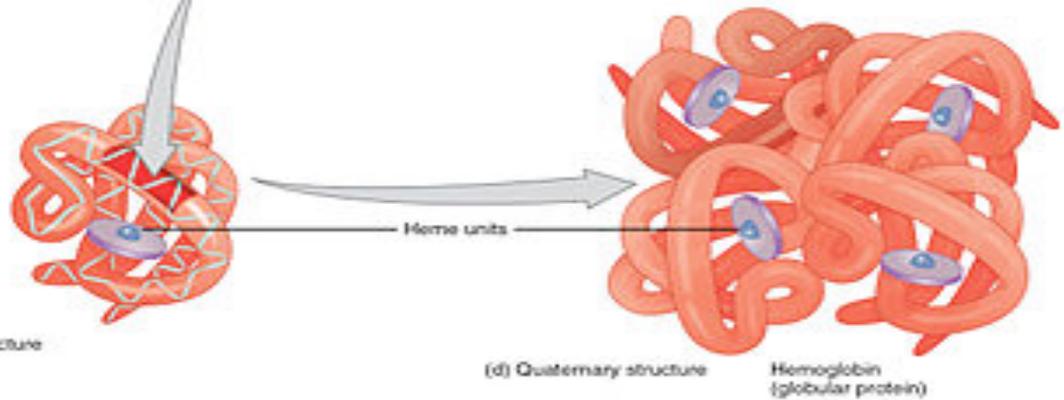
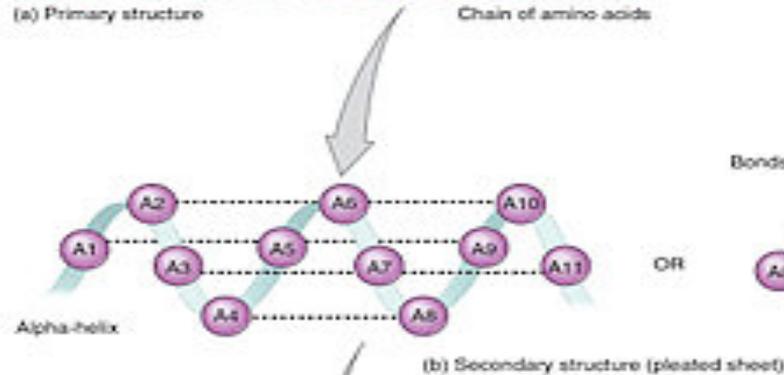
Amino Acid Structure



Amino acids link and fold

21 types of amino acid monomers,
11 your body can make
9 'essential' from diet only

Folded into a specific shape for functional use



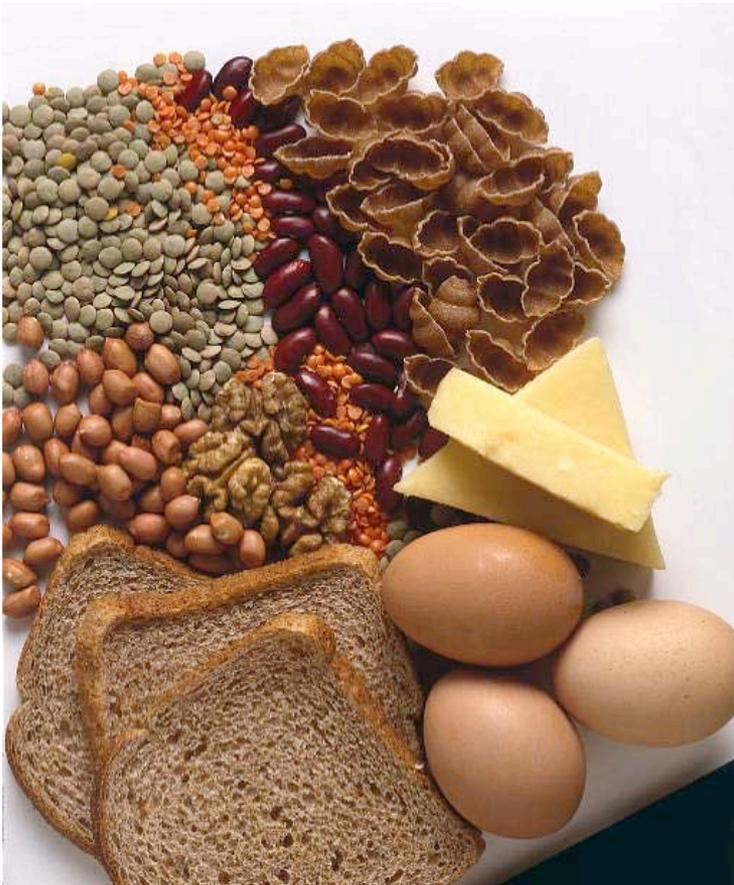
Hemoglobin –folded protein carries oxygen in blood

Found in

Meat (fish, chicken, pork, beef = muscle)

Beans, eggs & grains (only if whole grain)

Energy = 4 Calories/gram



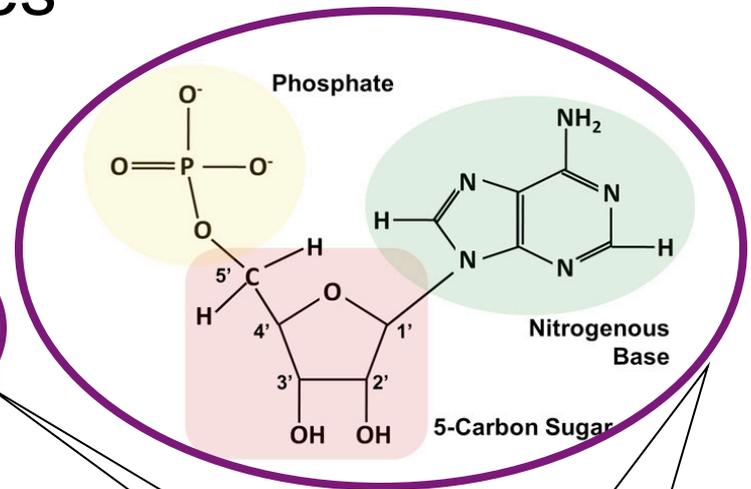
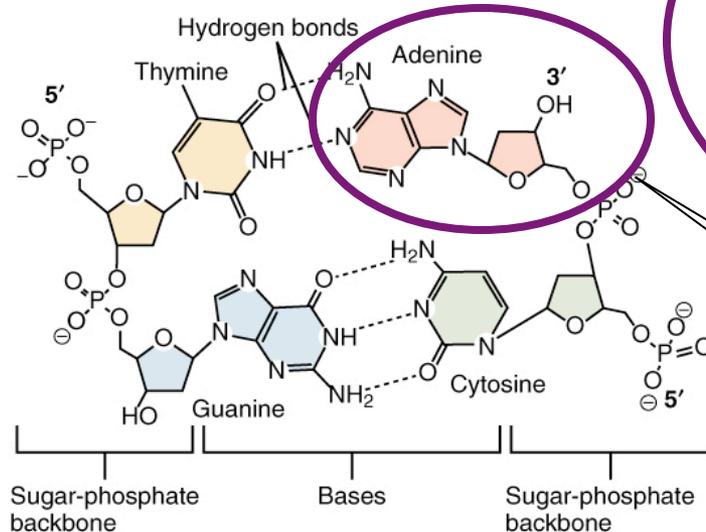
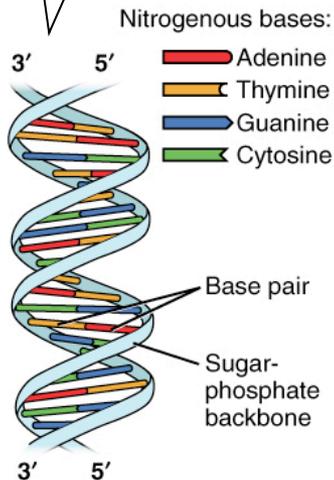
Nucleic Acids- polymers made of nucleotide monomers (5 kinds)

Made of Atoms C, H, O, N, P

Function –store and process genetic information

Examples- DNA makes up chromosomes,
RNA reads chromosomes

DNA is a polymer



A nucleotide monomer

Found in –all fresh fruits & vegetables (plant cells have DNA) and animal products (meats from animal cells).

