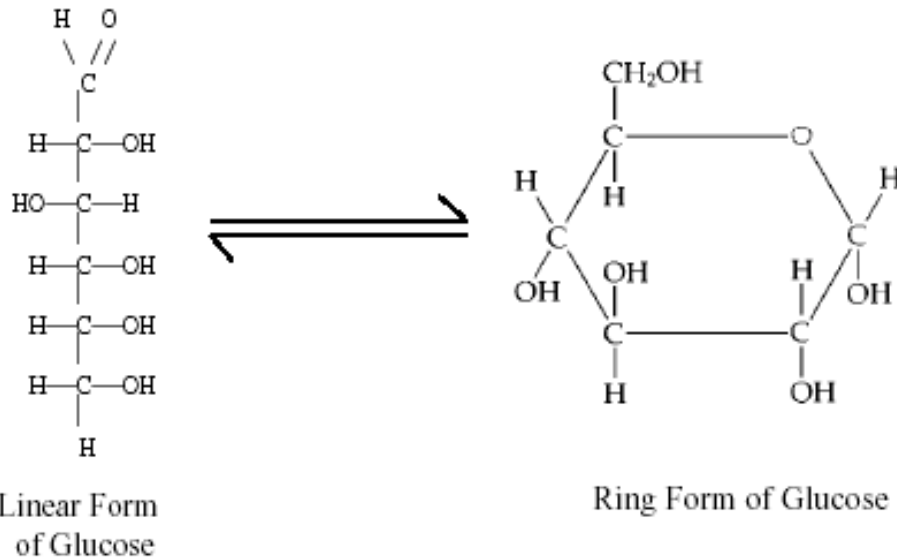


2-Images of Chemical structures of biological molecules

Carbohydrates:

Monosaccharides

Monosaccharides are the monomer:



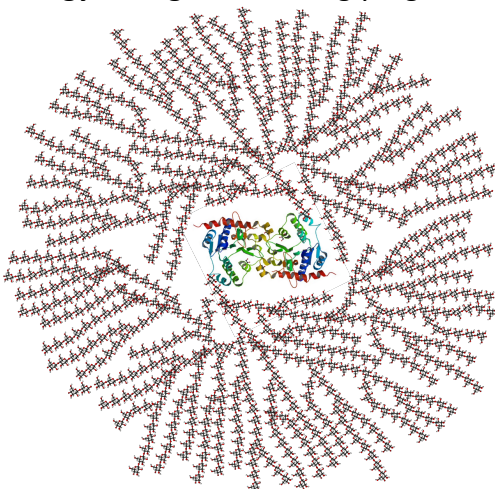
From: http://www.pleasanton.k12.ca.us/avhsweb/thiel/apbio/notes/chp5_notes.html

Polysaccharides

Polysaccharides are the result of many monosaccharides coming together and can take different forms

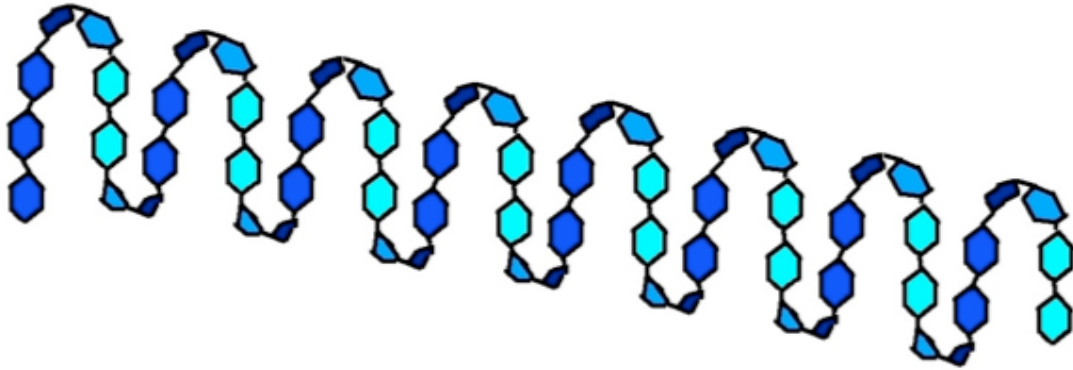
All of these are examples of polysaccharides of the specific monosaccharide, glucose.

Energy storage: Humans, glycogen



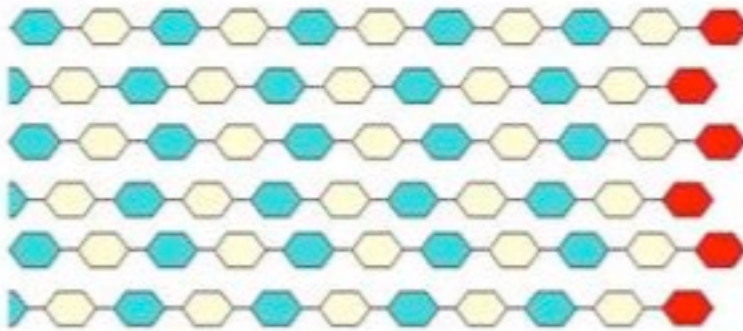
https://en.wikipedia.org/wiki/Glycogen#/media/File:Glycogen_structure.svg

Energy storage: plants, starch:



<http://beerandwinejournal.com/wp-content/uploads/2014/10/amyloseBWJ.jpg>

Structural role: plants: cellulose (fiber):

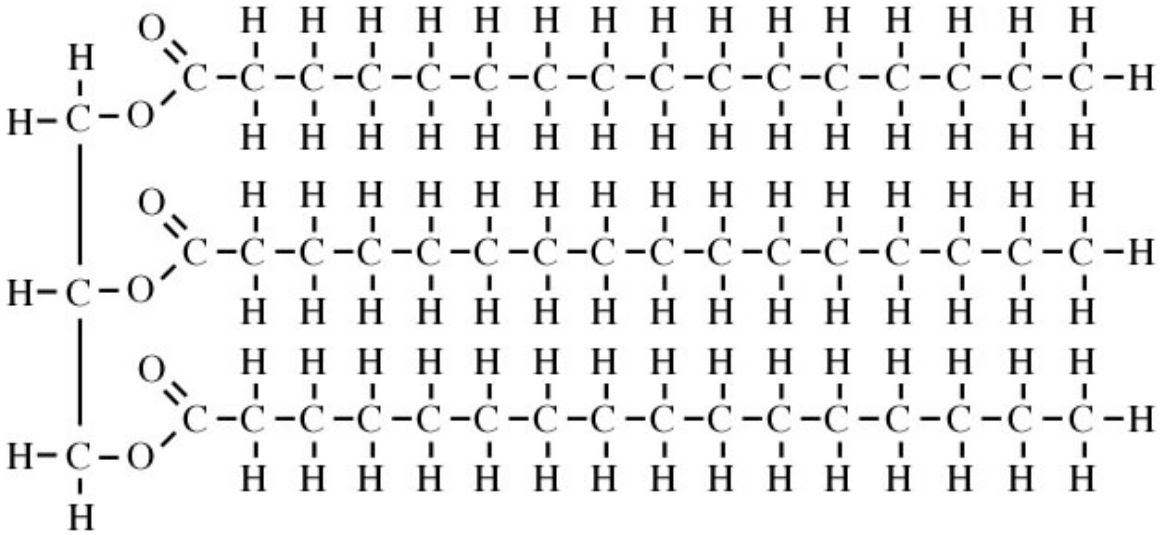


http://polysac3db.cermav.cnrs.fr/discover_cellulose.html

Fats/Lipids

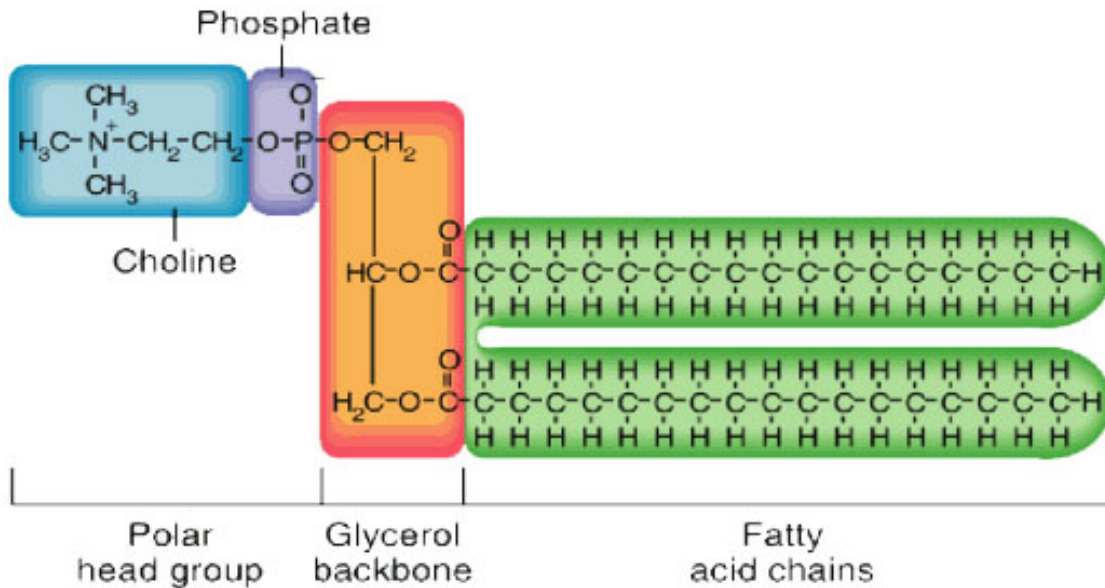
Triglycerides

Energy storage: notice all the C-C, and C-H bonds: these are *hydrophobic*



<http://www.indiana.edu/~oso/Fat/SolidNLiquid.html>

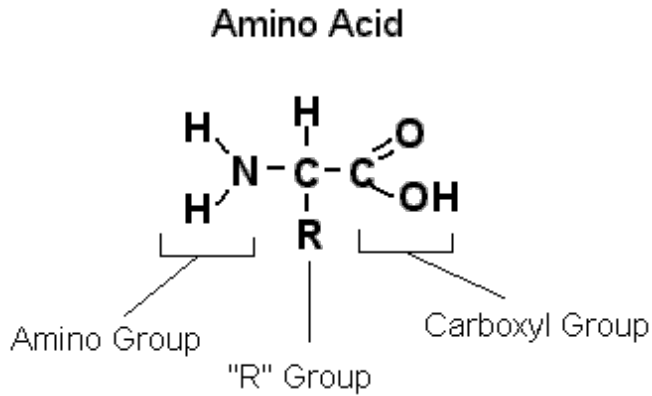
Phospholipids: cell membranes



<http://bio100.class.uic.edu/lectf03am/phospholipid.jpg>

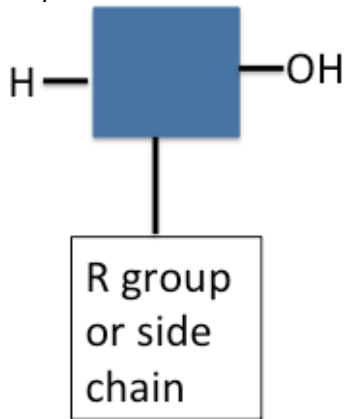
Proteins

Amino Acid Monomer

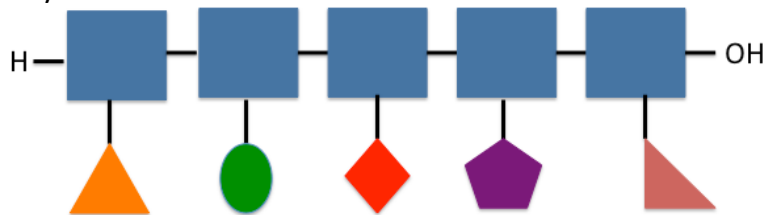


from: <https://jedwardschem.wikispaces.com/NB4+Ashli+K>

Simplified:



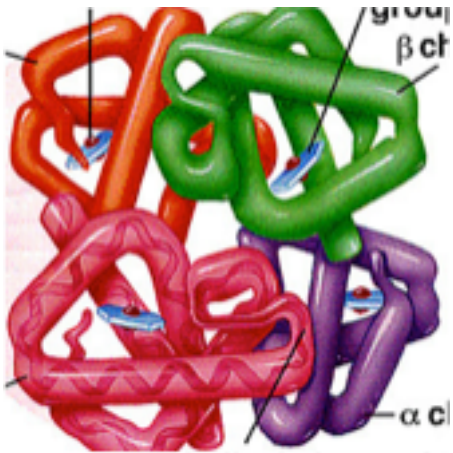
Polymer: chain of amino acids:



Folds into a 3D shape: we model these different ways, and there are many different shapes.

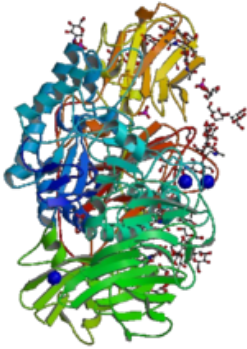
Examples:

Hemoglobin: carries oxygen for red blood cells



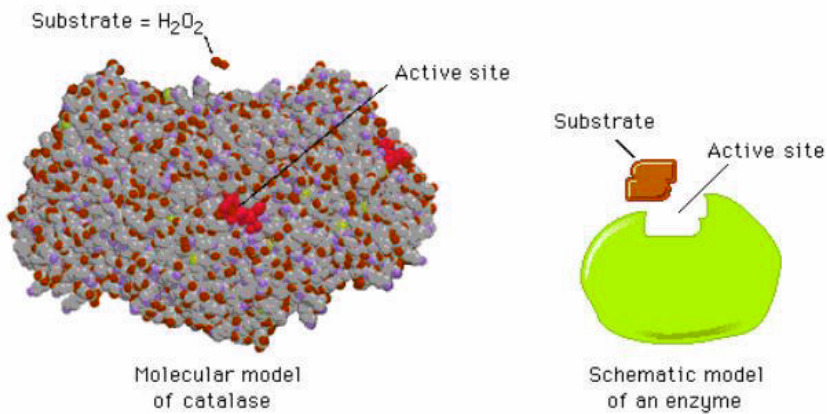
<http://www.biochemden.com/hemoglobin/>

Lactase: enables a disaccharide, lactose, to be digested into 2 monosaccharides:



<https://en.wikipedia.org/wiki/Beta-galactosidase>

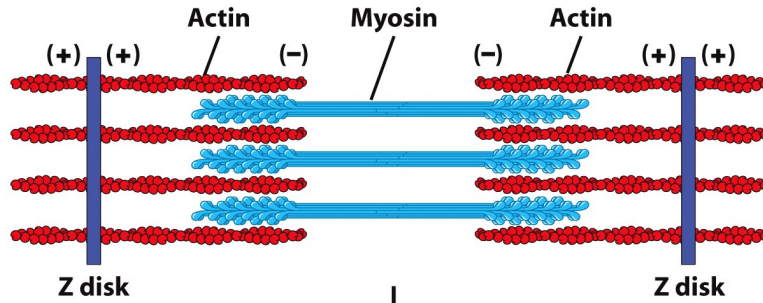
Catalase: allows cells to break down hydrogen peroxide into water and oxygen



<http://www.thinksciencemaurer.com/enzyme-variables-lab-liver-hydrogen-peroxide/>

Myosin and Actin: allow for muscle cells to contract

Relaxed



Contracted

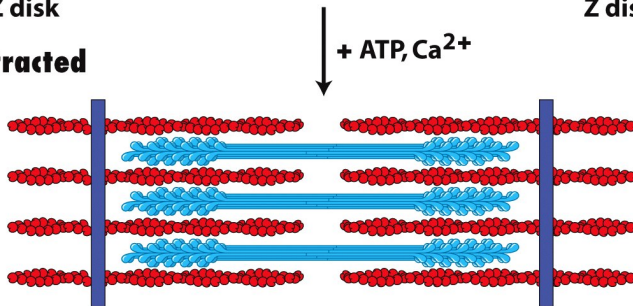


Figure 17-30
Molecular Cell Biology, Sixth Edition
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http://www.bio.miami.edu/tom/courses/bil255/bil255goods/21_muscle.html