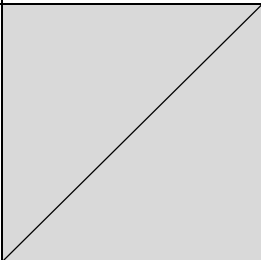


MACRO- MOLECULE	BUILDING BLOCKS (MONOMERS)	GROUPS	EXAMPLES	FUNCTIONS	NOTES
CARBO- HYDRATES					
LIPIDS					
PROTEINS					
NUCLEIC ACIDS					

MACRO-MOLECULE	BUILDING BLOCKS (MONOMERS)	GROUPS	EXAMPLES	FUNCTIONS	NOTES
CARBO-HYDRATES	mono-saccharides (simple sugars)	mono-di-poly-saccharides	mono-: glucose fructose galactose di-: sucrose maltose lactose poly-: starch, cellulose, glycogen chiton	mono-, di-: Energy source poly-: <u>starch</u> : food storage-plants <u>cellulose</u> : plant support <u>glycogen</u> : food storage-animals <u>chiton</u> : exoskelton	bond: α or β glycosidic linkage between sugar monomers. α linkages between monomers in starch, β linkages in cellulose. Enzymes specific for catalyzing the breakdown of α linkages are ineffective on β linkages. Humans cannot digest wood or the fibers in celery or whole grain. This fiber acts as "roughage" stimulating the intestine to secrete mucus to promote regular bowel movements.
LIPIDS	3 fatty acids + glycerol (3C)	triglycerides (simple lipids) <hr/> phospholipids <hr/> cholesterol	->->-> ->->-> ->->->	nutrition <hr/> cell membrane <hr/> cholesterol derivatives like hormones	bond: between each fatty acid and the glycerol.
PROTEINS	amino acids		sucrase-> <hr/> transmembrane-> <hr/> insulin-> <hr/> antibodies-> <hr/> muscles, hair, -> skin, fingernails	enzymatic <hr/> transport, relay <hr/> messengers <hr/> immunity <hr/> structural	bond: peptide bond between carboxyl and amino group of 2 amino acids. Primary level of folding: sequence of AA Higher levels of folding determine the polypeptide's shape. Normal shape = normal function
NUCLEIC ACIDS	<u>nucleotides</u> : phosphate, sugar, nitrogen base	deoxyribonucleic acid (DNA) <hr/> ribonucleic acid (RNA) <hr/> adenosine triphosphate (ATP)	->->-> ->->-> ->->->	control of the cell, heredity <hr/> messenger (mRNA) organizer (rRNA) translator(tRNA) <hr/> energy shuttle	bond: between phosphate and sugar Bacterial DNA has a main chromosome plus circular DNA called plasmids 10 nucleotides per turn A=T(U); C=G