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| --- | --- | --- | --- | --- |
|  | **Carbohydrates** | **Proteins** | **Nucleic Acids** | **Lipids** |
| **Monomers****“building blocks”****Examples:** |  |  |  |  |
| **Di-**- joined together by dehydration synthesis |  |  |  |  |
| **Polymer**- joined together by dehydration synthesis |  |  |  |  |
| **Function in Living Organisms** |  |  |  |  |
|  | **Carbohydrates** | **Proteins** | **Nucleic Acids** | **Lipids** |
| **Monomers****“building blocks”****Examples:** | Monosaccharides “simple sugars”Examples* glucose
* fructose
 | Amino Acids20 different onesExamples* Leucine
* Serine
* Aspartic acid
 | NucleotidesThree parts of a nucleotide* pentose sugar
* Phosphate group
* 1 of 4 nitrogenous bases
 | Fatty Acid chainsPhosphate groups |
| **Di-**- joined together by dehydration synthesis | Disaccharides- two monosaccharides joined togetherExamples* Maltose
* Sucrose
* lactose
 | Dipeptide- two amino acids joined together with a peptide bond | Dinucleotide- two nucleotides joined together |  |
| **Polymer**- joined together by dehydration synthesis | Polysaccharides* Starch – storage in plants
* Glycogen – storage in animals
* Cellulose – component of cell walls
* Chitin – exoskeleton of insect and crustaceans
 | Polypeptide4 Levels of Structure* Primary – sequence of amino acids
* Secondary – alpha helix or beta pleated sheet
* Tertiary – three-dimensional shape
* Quaternary Structure – more than one polypeptide chain
 | PolynucleotidesDNA* double-stranded
* double helix
* located in nucleus

RNA* Single-stranded
* Many forms
* Located in nucleus and cytoplasm
 | (do not form polymers)TriglyceridePhospholipidSteroidsWaxes |
| **Function in Living Organisms** | Function of Glucose:Raw materialsMain fuel for cells | Structural ProteinDefense – antibodiesSignaling - hormonesReceptors; Transport;Storage | Basis of heredity“codes” for proteins | Storage of energyProtectionInsulationHormones |