

Macromolecules

- Small organic molecules (monomers).
 - Simple sugars, amino acids, fatty acids.
- Many monomers = polymers
 - Larger organic molecules (polysaccharides, proteins, nucleic acids)
- Broken apart/combined by adding or removing water (H₂O)

Dehydration Reaction

- Removal of water $H^+ + OH^- \rightarrow H_2O$

Bio Molecules (Review this section)-

- Carbohydrates - C-H₂-O. made of sugars and their polymers .
 - small (sugars) or chains (cellulose)
 - monomers = simple sugars (monosaccharaides)
 - two put together are disaccharide
 - 3+ = polysaccharide. Used for long tem energy storage in plants . Starch - storage in plants found in the root and the seeds
 - Glycogen- short term storage in animals
 - Cellulose - plant cell walls. Provides structure for the plants. In animals the cellulose is a source of fiber
- Lipids - fat/oil/waxes, phospholipids and steroids .
 - Mainly composed of carbon and hydrogen
 - Composed of non-polar covalent bod
 - It is hydrophobic
 - Fatty acid - are long chains composed of hydrocarbons
 - termination in a carboxyl group
 - **Saturated fats** - carbons have formed all possible *single* bonds. They are solid at room temperature.
 - Fats have a long-term energy storage.
 - Cushions for vital organs and insulates against heat loss.
 - **Unsaturated fats:** have a kin in them which eliminates them from packing in tightly . they have one or more double bonds between C's.

- Proteins
- Nucleic acids