

# Macromolecule Notes

Macromolecule: large organic molecules

↳ MANY atoms bonded together

Monomer: smaller molecules that bond together to make larger molecules. (polymers)

Polymer: large molecule made of combinations of many monomers.

## 4 Most Important Elements (for living things): Carbon(C), Hydrogen(H), Oxygen(O), & Nitrogen(N)

Macromolecule	Structure What elements are in it? What are its building blocks (monomers)?	Function What is its job? What is it used for?	Examples Where is it found?
Carbohydrates	<p>Elements: C, H, O</p> <p>Bldg Blocks: <u>MONOSACCHARIDES</u></p> <p>↳ ex: glucose (C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>)</p> <p>↳ also: disaccharides &amp; polysaccharides</p> <p>Structure: molecules have a hydrogen to oxygen ratio = 2:1</p> <p>H:O</p> <p>= 6 Carbon Ring (monosaccharides)</p> <p>= "2" disaccharides</p> <p>= poly saccharides</p>	<p>- Provides quick energy</p> <p>- Glucose = energy cells can use</p>	<p>Rice</p> <p>Pasta</p> <p>Bread</p> <p>Potatoes</p> <p>Starch (plants)</p> <p>↳ new plants, stockpile energy</p> <p>Cellulose</p> <p>↳ part of plant cell walls</p>
Lipids	<p>Elements: C, H, O</p> <p>Bldg Blocks: glycerol bonded to 2 or 3 fatty acids</p> <p>Glycerol + fatty acids (2-3 "tails")</p> <p>↳ unsaturated fats: double bonded</p> <p>↳ saturated fats: single bonded</p> <p>↳ Bad for you (solid @ room temp; animal fats)</p> <p>↳ Carbons C=C</p> <p>↳ from plants &amp; fish</p>	<p>- Cell membranes are made of 2 layers of lipids</p> <p>- Stores energy (long-term)</p> <p>- Help protect vital organs</p> <p>- Cholesterol (a type of steroid) helps build cells</p>	<p>Oils - fish, vegetable</p> <p>Fat - animals</p> <p>Waxes - plants</p>

Phospholipids = 2 fatty acid chains

add before lipid lab:

\* Glycerol is polar so it is hydrophilic

\* Fatty acids are nonpolar so they are hydrophobic

Organic compound: molecule that contains Carbon (except for CO<sub>2</sub>).