***\*Fill in EVERYTHING!* Macromolecule Chart Organic molecules are based on CARBON.**

**Elements: C = Carbon, H = hydrogen, N= nitrogen, O= oxygen, P= phosphorus, S= sulfur**

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| **Macromolecules,****Biomolecules,****Organic Compunds** | **Elements****CHNOPS** | **Subunits *A-K-A*****Monomers *A-K-A******Building Blocks*** | **Functions:**Why are they important? | **Examples:**Where can we find them? | **Test(s)*****(Indicators)*** |
| **Carbohydrates** | \_\_\_\_\_\_\_\_\_Ex: C6H12O6Glucose (simple sugar) | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -plant\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - animal\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_– glucose, fructose, sucrose\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_– plant cell walls | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: turns purple/blue/black in starch\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: turns red, orange or green in simple sugars such as glucose |
| **Lipids: *Fats*** | \_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \*\_\_\_\_\_\_\_\_\_\_\_: store body heat\*\_\_\_\_\_\_\_\_\_: cell membranes\*\_\_\_\_\_\_\_\_\_\_\_ energy storage | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| **Nucleic Acids**Found in the cell nucleus | \_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  | \_\_\_\_\_\_\_\_\_\_\_\_\_and\_\_\_\_\_\_\_\_\_\_ genetic information | **DNA**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**RNA**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | No Indicator test**BUT**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is used to see the presence. |
| **Proteins** |  \_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\*Peptide bonds forming a polypeptide chain (protein) | \*Change the rate of \_\_\_\_\_\_\_\_\_\_\_ (enzymes)\* \_\_\_\_\_\_\_\_\_\_\_\*\_\_\_\_\_\_\_\_\_\_\_ | \*\_\_\_\_\_\_\_\_\_\_\_\_\_\_-**Ends in “ase”**\*HemoglobinCarries oxygen in blood. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: blue solution turns violet in proteins  |

***\*Fill in EVERYTHING!* Macromolecule Chart Organic molecules are based on CARBON.**

**Elements: C = Carbon, H = hydrogen, N= nitrogen, O= oxygen, P= phosphorus, S= sulfur**

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| **Macromolecules,****Biomolecules,****Organic Compunds** | **Elements** | **Subunits *A-K-A*****Monomers *A-K-A******Building Blocks*** | **Functions:**Why are they important? | **Examples:**Where can we find them? | **Test(s)*****(Indicators)*** |
| **Carbohydrates** | C,H,OCarbon, hydrogen, oxygenEx: C6H12O6Glucose (simple sugar) | monosaccharides (simple sugars) | \*Short-term energy storage\*Quick-release energy | \*Starch -plant\*Glycogen - animal\*Sugars – glucose, fructose, sucrose\*Cellulose – plant cell walls | Iodine: turns purple/blue/black in starchBenedict’s Solution: turns red, orange or green in simple sugars such as glucose |
| **Lipids: *Fats*** | C,H,O | 1 glycerol and 3 Fatty Acids=Triglyceride | \*Insulation: store body heat\*Protection: cell membranes\*Long-term energy storage | FatsOilsWaxesSteroidsCholesterol | Brown Paper Bag TestOr SudanIV |
| **Nucleic Acids**Found in the cell nucleus | C,H,O,N,P | Sugar, Phosphate, Nitrogen base.  | Store and transmit genetic information | **DNA**Deoxyribonucleic acid**RNA**Ribonucleic acid | No Indicator test**BUT**Gel Electrophoresis is used to see the presence. |
| **Proteins** | C,H,N,O, P,S | Amino Acids\*Peptide bonds forming a polypeptide chain (protein) | \*Change the rate of chemical reactions (enzymes)\* Structure\*Transport  | \*Enzymes-**Ends in “ase”**\*Hemoglobin | Biuret’s Test: blue solution turns violet in proteins  |