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| **Guided Notes: Carbon Compounds** | |
| All living things contain **“CHNOPS” or “SPONCH.”** What elements do these letters represent? | **C:**  **H:**  **N:**  **O:**  **P:**  **S:** |
| **All compounds can be broken down into 2 main groups…organic vs. inorganic.** | * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ compounds do NOT contain Carbon * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ compounds DO contain Carbon. |
| What is an **ORGANIC** molecule?  **Ex.** Glucose, Glycerol, & Amino Acids | * A molecule containing… |
| **Why is Carbon so important?**  **Review:** What happens to e- during a covalent bond? | * It can form strong, stable (usually non-polar) covalent bonds * It can form up to \_\_\_\_\_ bonds * It can form multiple bonds |
| **macromolecule--myoglobinMACROMOLECULES** | * “Giant Molecules” * Made from thousands or hundreds of thousands of… * Formed through a process called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **What is POLYMERIZATION?**  Fig_9513 | * **MONOMER:** * **POLYMER:** * Basically, polymerization is like building a puzzle. |
| **Dehydration Synthesis** | * Means… * When two monomers are joined, an \_\_\_\_\_ from one is removed and joined to an \_\_\_\_\_ from the other. |
| **Hydrolysis** | * **Hydro:** * **Lysis:** * Occurs when water is \_\_\_\_\_\_\_\_\_\_ to a chemical reaction to break down a macromolecule * Opposite of dehydration synthesis |
| **Types of Macromolecules** |  |
| **CARBOHYDRATES**  **Monomer:**  **Glucose**  **Polymer:** | * Made of C, H, & O in a 1:2:1 ratio * **Function:** * Ex: Glucose, Sucrose, Fructose, Lactose, Cellulose |
| **Important Polysaccharides** | * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Short-term energy-storage in animals, stored in liver until converted into fat. * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Used for structural support in plants, difficult to digest. |
| **LIPIDS**  **Monomer:**  **Polymer:** | * Consist mostly of… * Include fats, oils, & waxes * Not soluble in water * **FUNCTIONS:** |
| **Components of Lipids** | * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ An alcohol which serves as a backbone * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Long hydrocarbon chains |
| **Types of FATS**             **\*Why do double bonds matter?** | * No double bonds (no C=C) * Has double bonds (C=C) * Has many double bonds   \* |
| **dnaNUCLEIC ACIDS**  **Monomer:**  **Polymer:** | * Contain PONCH * **Function:** Store and transmit genetic info * **EX:** |
| **What is a NUCLEOTIDE?** dna-nucleotide**dna-nucleotide**  **Draw one here…** | * 3 Main Parts |
| **TBoneSteak1PROTEINS**  **Monomer:**  **Polymer:** | * Contain ONCH * **Functions:** |

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| **Graphic Organizer: Use your notes to complete the table below.** | | | | |
| **MACROMOLECULE** | **CARBOHYDRATES** | **LIPIDS** | **PROTEINS** | **NUCLEIC ACIDS** |
| **ELEMENTS** |  |  |  |  |
| **MONOMER** |  |  |  |  |
| **POLYMER** |  |  |  |  |
| **FUNCTIONS** |  |  |  |  |
| **EXAMPLES** |  |  |  |  |

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| **ACROSS**  3. Monomer of nucleic acids  4. The abbreviation of deoxyribonucleic acid  6. Many genetic \_\_\_ are due to defective proteins in our bodies  7. \_\_-dimensional shape is very important for the function of  that protein  10. Generic term for any building block molecule of any class  13. There are \_\_ kinds of amino acids in our cells  14. Cholesterol is in the \_\_\_ class of macromolecules  16. A macromolecule made of amino acid monomers  19. Macromolecules made of nucleotides (2 words)  20. A monomer of carbohydrates | **DOWN**  1. Micronutrients (named A,B,C,D,E,K) essential for our body  2. Humans do not have the \_\_ to digest plant cellulose  5. Class of macromolecules made of sugar monomers  8. Describes any molecules that are repelled by water  molecules  9. Generic term for any macromolecule of any class  11. Main function of triglycerides is \_\_\_\_storage  12. Type of bond that connects atoms together to form  molecules  15. Monomer of proteins  17. The order or \_\_\_ of the amino acids determine the shape of  the protein  18. Type of triglycerides found mainly in animal cells |
| **Terms:** Amino acid, carbohydrates, covalent, diseases, DNA, energy, enzyme, fats, glucose, hydrophobic, lipids, monomer, nucleic acids, nucleotide, polymer, protein, sequence, three, twenty, vitamins | |