**Date: Bell Ringer – Biological Molecules Name:**

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| **Biomolecule** | **Main Elements** | **Monomer (single unit building block)** | **Types and Examples** | **Functions** | **Sketch** | **Foods to Eat** | **Other** |
| Carbohydrates | \_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_ | Monosaccharides  – ex. Glucose  Disaccharides  – ex. Lactose  \_\_\_\_\_\_\_\_\_\_\_\_\_  – ex. Cellulose  – Chitin  – Glycogen  – Starch | Energy for cells (used in cellular respiration to make ATP)  - Structural – used to make plant cell walls (dietary fibre)  - Structural – used to make exoskeleton of crustaceans such as crabs  - Short term energy storage in animals  - Short term energy storage in plants | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Pasta, bread, rice, grain, potatoes | Before a big game, athletes often carbo-load to help improve performance |
| Lipids | C, H, O | \*\*Glycerol & fatty acid\*\* | \_\_\_\_\_\_\_\_\_\_\_\_\_\_  Phospholipids  Steroids | Long term energy storage  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Hormones (molecules that travel through the blood to affect cells around the body) |  | Oils, butter, meats, avocados | Lipids are fatty, waxy, or oily compounds that are insoluble in water |
| Proteins | C, H, O, N | \_\_\_\_\_\_\_\_ | Enzymes  Antibodies  Many structural proteins | Increase rate of chemical reactions  Immune system  Various functions | C:\Users\wes.schmitt\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\1EF97E10.tmp | Meats, eggs, dairy, fish, legumes | Amino acids are located in the cytoplasm of the cell  The difference between proteins is the sequence of the amino acids and how they are folded up |
| \_\_\_\_\_\_\_\_\_\_\_ | C, H, O, N, P | Nucleotide | DNA  RNA  ATP | Hereditary information  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Nucleotides and Nucleic Acids — the science hiveC:\Users\wes.schmitt\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\D96DAA84.tmp  C:\Users\wes.schmitt\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\1BA66732.tmp | \_\_\_\_\_\_\_\_\_ | DNA contains the information to build life  mRNA is a copy of a section of DNA that exits the nucleus  ATP stores energy in its high energy bonds |

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| Carbohydrates | C, H, O | Mono-saccharide | Monosaccharides  – ex. Glucose  Disaccharides  – ex. Lactose  Polysaccharides  – ex. Cellulose  – Chitin  – Glycogen  – Starch | Energy for cells (used in cellular respiration to make ATP)  - Structural – used to make plant cell walls (dietary fibre)  - Structural – used to make exoskeleton of crustaceans such as crabs  - Short term energy storage in animals  - Short term energy storage in plants |  | Pasta, bread, rice, grain, potatoes | Before a big game, athletes often carbo-load to help improve performance |
| Lipids | C, H, O | \*\*Glycerol & fatty acid\*\* | Triglycerides  Phospholipids  Steroids | Long term energy storage  Cell membrane structure  Hormones (molecules that travel through the blood to affect cells around the body) |  | Oils, butter, meats, avocados | Lipids are fatty, waxy, or oily compounds that are insoluble in water |
| Proteins | C, H, O, N | Amino acid | Enzymes  Antibodies  Many structural proteins | Increase rate of chemical reactions  Immune system  Various functions | C:\Users\wes.schmitt\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\1EF97E10.tmp | Meats, eggs, dairy, fish, legumes | Amino acids are located in the cytoplasm of the cell  The difference between proteins is the sequence of the amino acids and how they are folded up |
| Nucleic Acids | C, H, O, N, P | Nucleotide | DNA  RNA  ATP | Hereditary information  Cellular energy | Nucleotides and Nucleic Acids — the science hiveC:\Users\wes.schmitt\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\D96DAA84.tmp  C:\Users\wes.schmitt\AppData\Local\Microsoft\Windows\INetCache\Content.MSO\1BA66732.tmp | Fruits, veggies, meats  ATP is made by the cell | DNA contains the information to build life  mRNA is a copy of a section of DNA that exits the nucleus  ATP stores energy in its high energy bonds |