Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Macromolecules –

**Carbohydrates**

Building Blocks (Monomers): monosaccharides (simple sugars)

Function: Main source of energy

Simple sugars- quick energy, complex sugars (starches) - long term energy

Examples: simple- apple complex- pasta

Additional Info: monosaccharides, disaccharides, polysaccharides

Carbon, Hydrogen, Oxygen (CHO)

**Lipids**

Building Blocks: Fats, Oils, Waxes

Function: Store energy

Insulation, prevent water loss

Examples: Butter, oils, wax, steroids

Additional Info: Hydrophobic (“water fearing”), Lipid solid- triglyceride, Lipid liquid- oils

Carbon, Hydrogen, Oxygen (CHO)

**Proteins**

Building Blocks: Amino acids

Function: Transport substances, speed reactions, make hormones

Examples: eggs, nuts, hemoglobin

Additional Info: Composed of different amino acids

Carbon, Hydrogen, Oxygen, Nitrogen (CHON)

**Nucleic Acids**

Building Blocks: Nucleotides

Function: Store and communicate genetic information

Examples: DNA, RNA

Additional Info: 6 major nucelotides- all with 3 phosphate units

Carbon, Hydrogen, Oxygen, Nitrogen, Phosphorus

**All macromolecules...**

Definition: Large molecules that are formed by joining smaller molecules

Contain what element? Carbon, Hydrogen, Oxygen

Also known as? Monomers = Polymers (“many”)

**Macromolecules Video Notes**

Matching –

*Complete the following as you watch the video lecture on the four biological macromolecules.*

1. Macromolecule which provides your body’s main source of energy. Also provides

structure and support. \_\_Carbohydrates\_\_\_\_\_\_\_

2. Provides fast acting energy. \_\_\_\_\_\_\_simple sugars\_\_\_\_\_\_\_\_

3. Provides long lasting energy. \_\_\_\_complex\_\_\_\_\_\_\_

4. Examples of monosaccharides (simple sugars). \_\_\_fruit\_\_\_\_\_\_\_\_

5. Examples of polysaccharides (complex sugars). \_\_\_pasta\_\_\_\_\_\_\_

6. Macromolecule which stores energy, provides insulation, and prevents water loss.

\_\_\_\_lipids\_\_\_\_\_\_

7. Examples of lipids. \_\_\_\_fats, oils\_\_\_\_

8. Lipids are unlike any other molecule because they have no true

\_\_\_monomer\_\_\_\_\_\_\_\_

9. Lipids are hydrophobic. What does this mean? \_\_\_\_water fearing\_\_\_\_\_

10. Building blocks (monomers) of proteins. \_\_\_\_amino acids\_\_\_\_

11. “Essential amino acids” are not made by your body. Instead, you get them from

your \_\_food\_\_\_\_\_\_.

12. Macromolecule which is responsible for a wide variety of functions: structural

support, muscle building, cell communication, and cell growth, etc \_\_\_\_proteins\_\_\_

13. Special type of protein responsible for speeding up reactions and lowering

activation energy. \_\_\_enzyme\_\_\_\_\_\_\_\_\_

14. Examples of foods full of proteins. \_\_chicken, steak, eggs\_\_\_\_

15. What determines the function of a protein? \_\_\_structure\_\_\_\_\_\_

16. Organelle responsible for making proteins. \_\_\_\_\_ribosomes\_\_\_\_\_\_

17. Monomers (building blocks) of nucleic acids. \_\_\_nucleotides\_\_\_\_\_

18. Macromolecule responsible for storing and transmitting genetic information.

\_\_nucleic acids\_\_

19. Examples of nucleic acids. \_\_\_\_\_DNA, RNA\_­­­­­­­

**WORD BANK**

*Lipids*

*Glucose, sucrose and fructose found in fruits*

*Ribosome*

*Saturated Fats*

*Monomer*

*Nucleotides*

*Carbohydrates*

*Food*

*Chicken, steak, eggs, peanuts, milk*

*DNA & RNA*

*Simple Sugar Carbohydrates*

*Fats, Waxes and Oils*

*Amino Acids*

*Complex Sugar Carbohydrates*

*Proteins*

*“Water fearing” meaning they don’t mix with water*

*Starches found in pasta, potatoes and grains*

*Structure/Shape*

*Nucleic Acids*