

**Unit 2: Chemistry of Life**  
**Honors Biology**

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Per: \_\_\_\_\_

Organic Molecules of Life

❖ Elements of Life

- There are several elements important to living organisms
- An element is something that \_\_\_\_\_
- Elements are listed on the periodic table
- Four elements make up 96% of all living matter
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
- The other 4 % is made up of
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_
  - \_\_\_\_\_

❖ Organic Compounds

- \_\_\_\_\_
- \_\_\_\_\_

❖ Monomers

- \_\_\_\_\_
- Also called \_\_\_\_\_ or \_\_\_\_\_

❖ Polymers

- \_\_\_\_\_
- Also called \_\_\_\_\_

THE FOUR MACROMOLECULES FOUND IN ORGANISMS

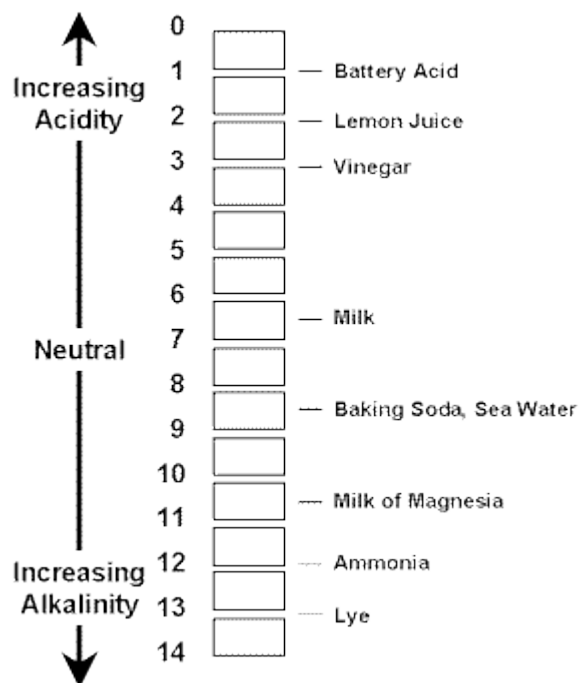
| POLYMER/<br>MACROMOLECULE | ELEMENTS<br>CONTAINED | MONOMER/SUBUNIT/<br>BUILDING BLOCK                        | FUNCTIONS |
|---------------------------|-----------------------|---|-----------|
| CARBOHYDRATES             |                       | Monosaccharides-<br><br>The most common monosaccharide is |           |
| LIPIDS                    |                       | Glycerol + Fatty Acids                                    |           |

|               |  |  |                  |
|---------------|--|--|------------------|
| PROTEINS      |  | Amino Acids-   |                  |
| NUCLEIC ACIDS |  | Nucleic Acids-<br><br>Two Kinds <ul style="list-style-type: none"><li>• DNA</li><br/><li>• RNA</li></ul> | DNA-<br><br>RNA- |

## Acids, Bases, and pH

### ❖ pH

- pH is the measure of \_\_\_\_\_
- The pH scale ranges from \_\_\_\_\_
- The pH of water is \_\_\_\_\_ which means it is \_\_\_\_\_
- Indicator Solutions- solutions that change \_\_\_\_\_ and can indicate the \_\_\_\_\_



### ❖ Properties of Acids

- pH \_\_\_\_\_
- React with \_\_\_\_\_ to form \_\_\_\_\_
- Corrosive- \_\_\_\_\_
- Taste \_\_\_\_\_
- Turn blue litmus paper \_\_\_\_\_
- \_\_\_\_\_
- Examples: \_\_\_\_\_

❖ Properties of Bases

- pH \_\_\_\_\_
- Taste \_\_\_\_\_
- Feel \_\_\_\_\_
- Turn red litmus paper \_\_\_\_\_
- \_\_\_\_\_
- Examples: \_\_\_\_\_

Inorganic Molecules Important to Life

❖ Inorganic Compounds

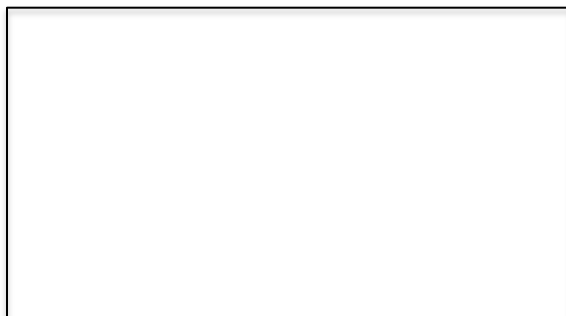
- \_\_\_\_\_
- \_\_\_\_\_

❖ Minerals

- \_\_\_\_\_
- Sometimes called \_\_\_\_\_
- Examples: \_\_\_\_\_

❖ Water

- Water contains two elements \_\_\_\_\_
- Formula for Water:
- Picture of a Water Molecule:



❖ Properties of Water

- Water is POLAR- \_\_\_\_\_
- Water exhibits COHESION and ADHESION
  - COHESION- \_\_\_\_\_
  - ADHESION- \_\_\_\_\_
  - Cohesion and Adhesion are responsible for
    - \_\_\_\_\_
    - SURFACE TENSION- \_\_\_\_\_
- Water RESISTS TEMPERATURE CHANGE
  - It takes a lot of heat energy to \_\_\_\_\_
  - A lot of heat energy has to be removed to \_\_\_\_\_
- Water can exist in three STATES and its DENSITY changes when its state changes
  - Density is a measure of how much \_\_\_\_\_ there is in a given \_\_\_\_\_
    - Any substance with a density lower than liquid water \_\_\_\_\_
    - Any substance with a density higher than liquid water \_\_\_\_\_
  - Solid- \_\_\_\_\_
    - The density of ice is \_\_\_\_\_ than the density of water so the ice \_\_\_\_\_ when you place it in water
    - Application: \_\_\_\_\_
  - Liquid- \_\_\_\_\_
    - Density= 1g/L
  - Gas- \_\_\_\_\_
- Water is the UNIVERSAL SOLVENT
  - It can dissolve anything that has \_\_\_\_\_