1. Name, describe, & give the biological significance of each descriptor.

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| Descriptor | Property/characteristic | Biological Significance |
| Water bonds to water |  |  |
| Ice floats |  |  |
| Water takes a long time to boil |  |  |
| Water bonds to glass |  |  |
| Water will dissolve many substances |  |  |
| Water has a partial positive and partial negative pole (end) |  |  |

1. Macromolecules are organic compounds/polymers that contain the element \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. All macromolecules are made up of the elements \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Macromolecules are held together by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bonds because they share electrons between them.
4. Name 2 functions of carbohydrates \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. Fats are important in the construction of cell membranes and store \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. This structure is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Label the following parts of the molecule below:

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. In the above drawing which part is hydrophobic and which is hydrophilic?

Hydrophobic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hydrophilic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is a phospholipid bilayer? Do not answer what makes up the cell membrane. Describe its properties. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Name 2 reasons why proteins are important (name 2 functions)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Proteins are molecules that are formed from subunits called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. What type of bond holds together amino acids? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. A long linear sequence of ***many*** amino acids is referred to as a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. Nucleic acids are composed of the subunit \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
7. DNA & RNA are responsible for containing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ information.
8. ATP is the universal “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_” for cells because it’s made in cells then used for many types of chemical reactions throughout the body.

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| 1. \_\_\_\_nucleic acid
2. \_\_\_\_nucleotide
3. \_\_\_\_DNA
4. \_\_\_\_RNA
5. \_\_\_\_ATP
6. \_\_\_\_phospholipid
7. \_\_\_\_amino acid
8. \_\_\_\_Sugar
 | a. temporarily stores energyb. involved in the production of proteinsc. subunit of proteinsd. one of the major classes of organic compoundse. contains the genetic codef. subunit of carbohydratesg. subunit of DNA and RNAh. found in cell membranes |

1. Label the subunit, the class it participates in, and all functions you can think of.