Molecules of Life Worksheet

1. Name the **4 main classes** of macromolecules (organic molecules) & tell what **3 elements** all of these contain.

Carbohydrates store energy for organisms!

2. In what ratio are hydrogen & oxygen atoms in carbohydrates?

3. In what 3 forms do carbohydrates exist?

4. What are the **monomers** of carbohydrates called? What is their **common name**? Give the **ratio** of carbons, hydrogens, & oxygens.

5. Name the 3 MOST common monosaccharides. How do they **compare**? Write the **chemical formula** for all three.

6. Because all 3 simple sugars have the same chemical formula, but different structural formulas, they are called _____.

7. What are double sugars called? **Name & describe** the process that forms them.

8. Name a disaccharide.

9. What forms a **polysaccharide**? Name a polysaccharide found in **animals**. Name **2** found in **plants**?

10. What chemical reaction **formed** these large molecules? What reaction would be needed to **break** these molecules?

Proteins are used to build cells, & they act as enzymes!

11. What are the 4 main elements making up proteins? How many covalent bonds does each of these elements form?

12. What are the monomers of proteins called? How many are there? Name the 4 things bonded to the center carbon of this monomer.

13. The main difference among amino acids is their _____ group. What is the R-group on glycine? on alanine?

14. Differences in R-groups give different proteins different _____.

15. How does a dipeptide form?

16. What do you call the covalent bonds that hold amino acids together?

17. Long chains of amino acids are called _____ and these join together to make a _____.