Carbohydrates Worksheet

- 1. Which elements do carbohydrates contain, and in what ratio?
- 2. If a sugar compound has 11 oxygen atoms, how many hydrogen atoms does it contain?
- 3. Based on their molecular formulas, which of the following are NOT carbohydrates?
 - a. $C_3H_8O_3$

c. $C_{18}H_{32}O_{16}$

e. $C_{16}H_{32}O_2$

b. C₁₀H₁₈O₉

d. $C_4H_8O_2$

- f. C₆H₁₂O₆
- 4. For each molecule below, determine if it is a monosaccharide, a disaccharide, or a polysaccharide:
 - a. Fructose

d. Glucose

g. Chitin

b. Ribose

e. Sucrose

h. Starch

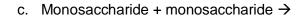
c. Cellulose

f. Glycogen

- i. Maltose
- 5. Describe a biological function for each of the following carbohydrates
 - a. Cellulose
 - b. Ribose
 - c. Starch
 - d. Glycogen
 - e. Deoxyribose
 - f. Fructose
 - g. Sucrose
- 6. Draw the molecular structure of the following carbohydrates:

RIBOSE	GLUCOSE

7.	Complete these word equations	
	a.	Glucose + glucose →
	b.	Glucose + fructose →



- 8. Briefly describe the process of the condensation reaction for carbohydrates.
- 9. Briefly describe the process of the hydrolysis reaction for carbohydrates.