

# Carbohydrates Worksheet

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

- Which elements do carbohydrates contain, and in what ratio?
- If a sugar compound has 11 oxygen atoms, how many hydrogen atoms does it contain?
- Based on their molecular formulas, which of the following are NOT carbohydrates?
  - $C_3H_8O_3$
  - $C_{10}H_{18}O_9$
  - $C_{18}H_{32}O_{16}$
  - $C_4H_8O_2$
  - $C_{16}H_{32}O_2$
  - $C_6H_{12}O_6$
- For each molecule below, determine if it is a monosaccharide, a disaccharide, or a polysaccharide:
  - Fructose
  - Ribose
  - Cellulose
  - Glucose
  - Sucrose
  - Glycogen
  - Chitin
  - Starch
  - Maltose
- Describe a biological function for each of the following carbohydrates:
  - Cellulose
  - Ribose
  - Starch
  - Glycogen
  - Deoxyribose
  - Fructose
  - Sucrose
- Draw the molecular structure of the following carbohydrates:

<b>RIBOSE</b>	<b>GLUCOSE</b>

7. Complete these word equations

a. Glucose + glucose →

b. Glucose + fructose →

c. Monosaccharide + monosaccharide →

d. Lactose + water →

e. Disaccharide + water →

8. Briefly describe the process of the condensation reaction for carbohydrates.

9. Briefly describe the process of the hydrolysis reaction for carbohydrates.