**Carbohydrates Worksheet** Name:

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?
   1. C3H803
   2. C10H18O9
   3. C18H32O16
   4. C4H8O2
   5. C16H32O2
   6. C6H12O6
4. For each molecule below, determine if it is a monosaccharide, a disaccharide, or a polysaccharide:
   1. Fructose
   2. Ribose
   3. Cellulose
   4. Glucose
   5. Sucrose
   6. Glycogen
   7. Chitin
   8. Starch
   9. Maltose
5. Describe a biological function for each of the following carbohydrates
   1. Cellulose
   2. Ribose
   3. Starch
   4. Glycogen
   5. Deoxyribose
   6. Fructose
   7. Sucrose
6. Draw the molecular structure of the following carbohydrates:

|  |  |
| --- | --- |
| GLUCOSE | CELLULOSE |
|  |  |

1. Complete these word equations
   1. Glucose + glucose 
   2. Glucose + fructose 
   3. Monosaccharide + monosaccharide 
   4. Lactose + water 
   5. Disaccharide + water 
2. Briefly describe the process of the condensation reaction for carbohydrates.
3. Briefly describe the process of the hydrolysis reaction for carbohydrates.

**QUESTION:** What comparison can be made between dehydration synthesis and hydrolysis?



