

### CHAPTER 3.3: Carbohydrates

1. Define the following:

a. monomer \_\_\_\_\_  
\_\_\_\_\_

b. polymer \_\_\_\_\_  
\_\_\_\_\_

c. condensation reaction \_\_\_\_\_  
\_\_\_\_\_

d. hydrolysis \_\_\_\_\_  
\_\_\_\_\_

2. Which foods do you think will enter the blood the quickest? Why?

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

3. What are the general roles of carbohydrates? \_\_\_\_\_

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

4. List some monosaccharides with their molecular formulas.

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

5. Double sugars are called \_\_\_\_\_

List the monosaccharides that form each:

a. maltose \_\_\_\_\_

b. sucrose \_\_\_\_\_

c. cellobiose \_\_\_\_\_

6. Polymers of sugars form \_\_\_\_\_

7. Which forms of polysaccharide is best for each function:

a. Strength of structure \_\_\_\_\_

b. Storage and sugar release \_\_\_\_\_

8. How does the alpha differ from the beta form of glucose and why is it significant to animals?

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

9. How can carbohydrates be chemically modified? Why is this significant?

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

10. Ninety percent of Asians, 75% of African-Americans, and a much smaller percent of northern Europeans are lactose intolerant. Why might we see this pattern – what is your hypothesis for this type of distribution?

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