Name _____ Date _____ Period _____

☺ *FUN WITH BIOMOLECULES* ☺

1. For each of these carbohydrates and lipids, do the following:

   - determine if it is organic (contains carbon)
   - determine if it is polar (contains a lot of oxygen and can mix with water)
   - provide a drawing or a REALLY DETAILED description of its structure
   - provide an explanation of its function
   - provide an interesting fact

   a. cellulose
   b. chitin
   c. lactose
   d. sucrose
   e. glycogen
   f. fructose
   g. glucose
   h. fatty acid
   i. triglyceride
   j. estrogen
   k. testosterone
   l. cholesterol
   m. phospholipid

2. For each of these levels of protein structure, do the following:

   - provide a definition
   - provide a drawing or a REALLY DETAILED description of its structure
   - provide 2 examples (secondary, tertiary, and quaternary structures only)

   a. primary structure
   b. secondary structure
   c. tertiary structure
   d. quaternary structure

3. Draw pictures for each of these 6 types of chemical reactions:

   a. dehydration synthesis reaction using 2 monosaccharides (sugars)
   b. dehydration synthesis reaction using 3 fatty acids and 1 glycerol
   c. dehydration synthesis reaction using 2 amino acids
   d. hydrolysis reaction breaking down 1 disaccharide
   e. hydrolysis reaction breaking down 1 triglyceride
   f. hydrolysis reaction breaking down 1 dipeptide