

**Biomolecules Practice**

AP Biology

**1. Examine each of the monosaccharides**

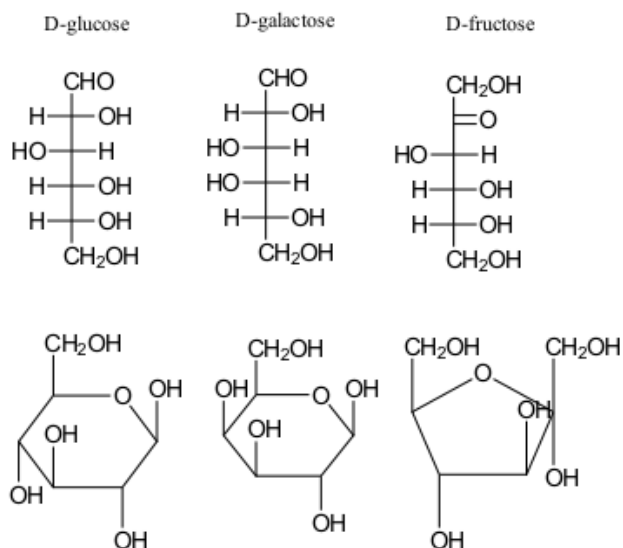
a) What is the molecular formula of glucose?

Fructose?

b) What do all of the hexoses have in common?

c) What makes them different?

d) Why are these molecules called hexoses?

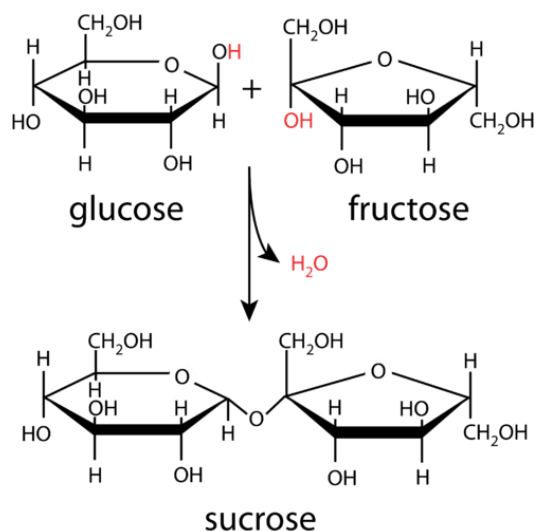
**2. Examine the reaction shown.**

a) What type of reaction is shown?

b) What monosaccharides make sucrose?

c) Sucrose is what common kitchen ingredient?

d) What is the chemical formula of sucrose?

**3. Examine the lipid shown.**

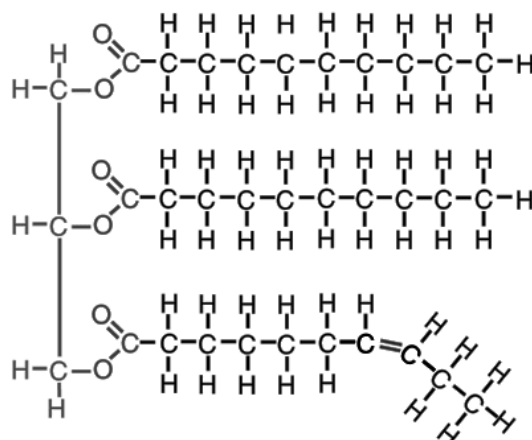
a) Label the glycerol, carboxyl, and fatty acid.

b) Circle the double bond in the fatty acid.

Is this a saturated or unsaturated fat?

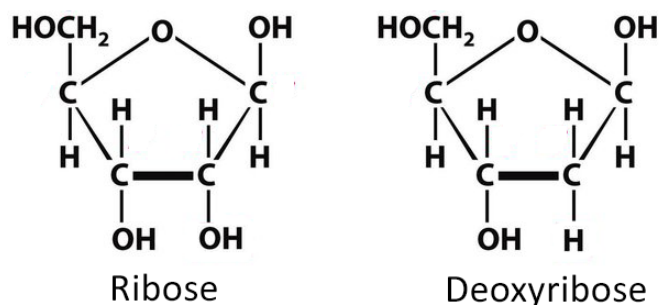
Is it a solid or liquid at room temperature?

c) What is the main function of this type of molecule?



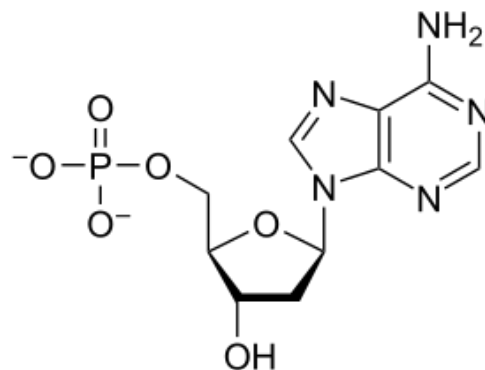
**4. Compare the structure of ribose to deoxyribose.**

- a) Why are these molecules called "pentoses?"
- b) How does ribose differ from deoxyribose?
- c) Where are each found?



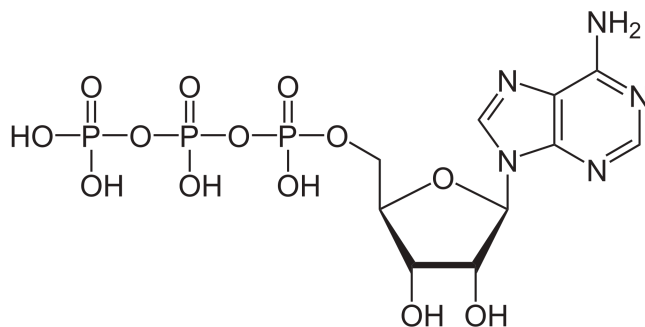
**5. Examine the nucleotide shown.**

- a) Label the three groups found in the nucleotide.
- b) Where are nucleotides found?
- c) What sugar is shown?



**6. Examine the molecule of ATP.**

- a) Label the three groups found in the molecule.
- b) Indicate the location of the high energy bond
- c) What is the full name for ATP?



**7. Examine the dipeptide.**

- a) What type of reaction is shown?
- b) What is "R"?
- c) Draw an arrow at the location of the peptide bond.  
Place a square around the amine group.  
Circle the carboxyl group

