Biochemistry CDT Practice

- **Organic compounds, such as proteins and starches, are too __A__ to diffuse into cells. Proteins are digested into __B__ and starches are digested into __C__.**
- **A.** A—large, B—simple sugars, C—amino acids
- **B.** A—small, B—simple sugars, C—amino acids
- **C.** A—large, B—amino acids, C—simple sugars
- **D.** A—small, B—amino acids, C—simple sugars
- Answer: C

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- Condensation and Hydrolysis Reactions

Which statement concerning simple sugars and amino acids is correct?

- A. They are both wastes resulting from protein synthesis.
- B. They are both building blocks of starch.
- C. They are both needed for the synthesis of larger molecules.
- D. They are both stored as fat molecules in the liver.
- Answer: C

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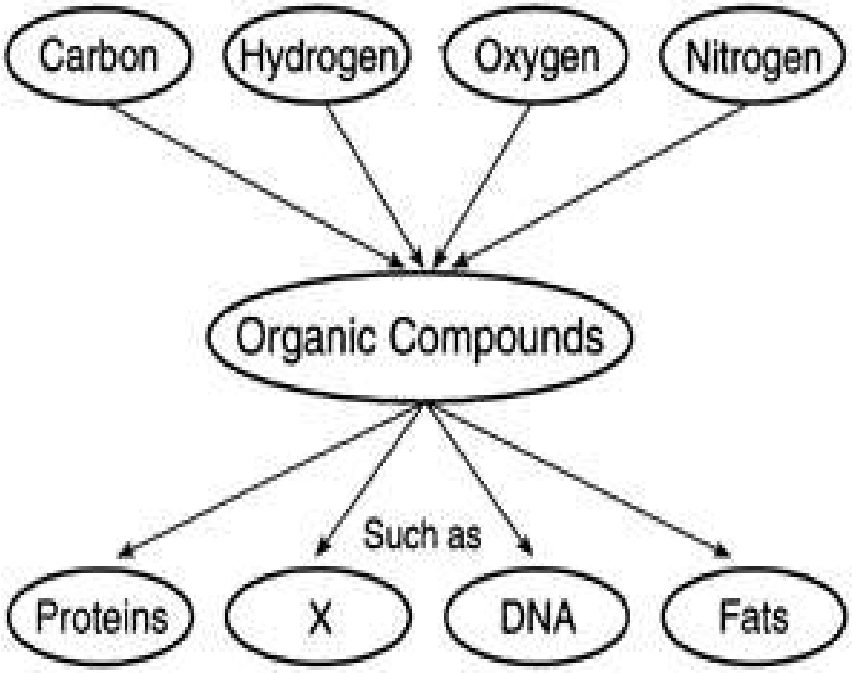
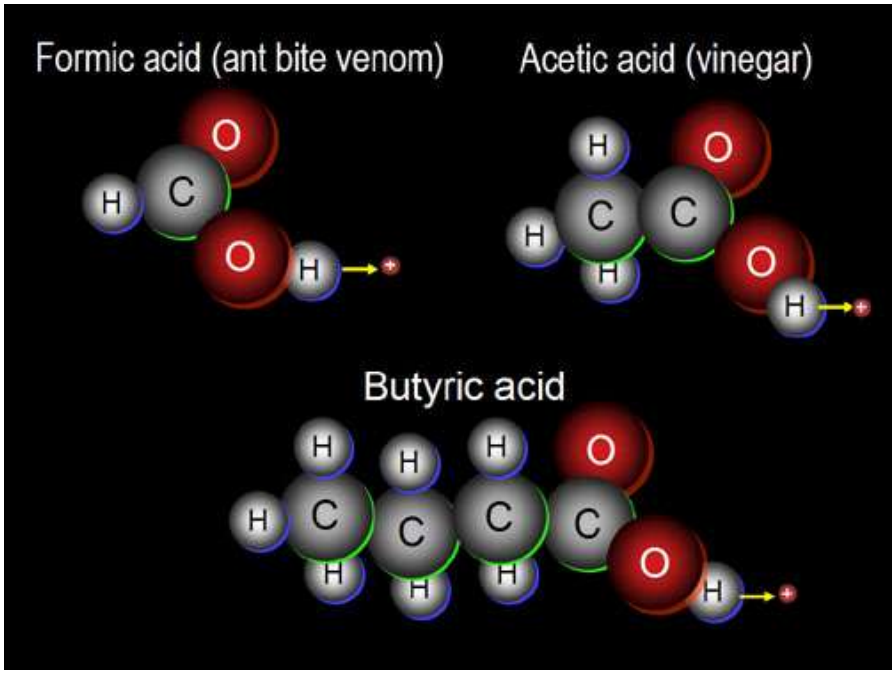
- Macromolecules

What substance could be represented by the letter *X* in the diagram below?



(1) carbohydrates
(2) ozone
(3) carbon dioxide
(4) water



Answer: Carbohydrates

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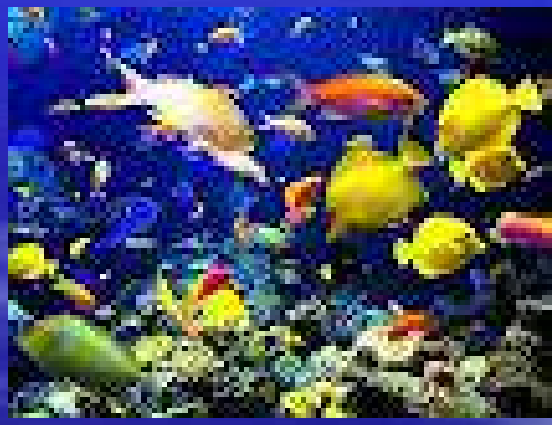
- Macromolecules

- **Fish, frogs, and plankton are some organisms found in a pond. Which characteristic do fish, frogs, and plankton have in common?**



- A. They live only in water.
- B. They make their own food.
- C. They require energy to live.
- D. They breathe air through their gills.
- Answer: C

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- Characteristics of Life

- **Many marine organisms are able to survive freezing winters in their habitat. Which statement describes a property of water that allows these organisms to withstand extreme temperature conditions?**
- A. Water sticks to things it cannot dissolve.
- B. Water is able to exist in three states of matter at room temperature.
- C. Water is able to dissolve a large variety of chemicals because it is a polar molecule.
- D. Water can absorb large amounts of energy without significant changes in temperature.
- Answer: D

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- Properties of Water

- **All biological macromolecules have a carbon backbone in common. Which statement best explains why carbon is well suited for this role?**
- A. Carbon has four electrons in its outer shell.
- B. Carbon is the most abundant element in nature.
- C. Carbon forms covalent bonds with other atoms.
- D. Carbon can exist in a solid state at room temperature.
- Answer: A

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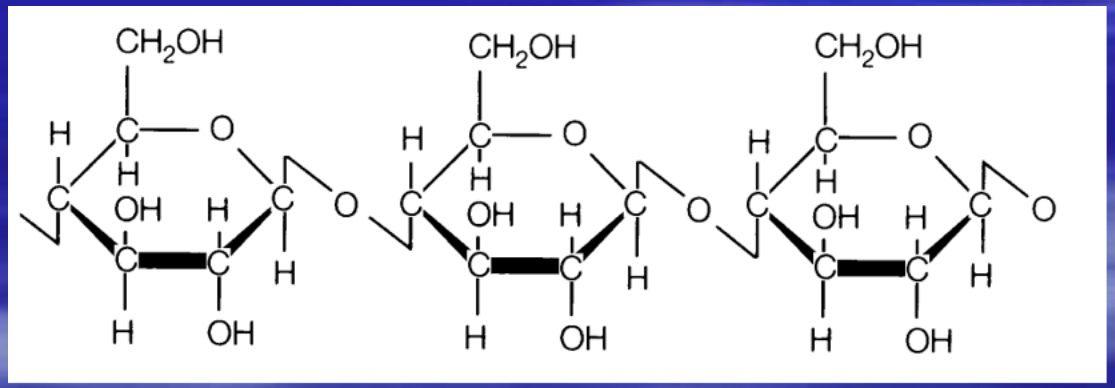
- Carbon Chemistry

- **Cellulose is a carbohydrate polymer which contains repeating units of glucose bonded together. Which type of reaction helps form the bonds between the glucose monomer units?**
- A. reduction
- B. hydrolysis
- C. respiration
- D. dehydration
- Answer: D



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- Condensation and Hydrolysis Reactions