

Which of the following is in a different chemical category than the others?

- A. Cytosine
- B. Thymine
- C. Arginine
- D. Guanine
- E. Uracil

The contractile vacuole of *Euglena* decreases its rate of contraction when the organism is transferred from fresh

water to sea water. This is explained by

- A. an increase in the osmotic pressure of the environment.
- B. a decrease in the osmotic pressure of the environment.
- C. the nitrogenous wastes can remain in the cell because of a higher salt concentration outside the cell.
- D. excess salts are eliminated without the loss of water.
- E. salt inhibits the contractile apparatus.

Which of the following is a correct association?

- A. Mitochondria : transports materials from the nucleus to the cytoplasm
- B. Golgi apparatus : modification and glycosylation of proteins
- C. Endoplasmic reticulum : selective barrier for the cell
- D. Ribosome : digestive enzymes most active at an acid pH
- E. Lysosomes : membrane-bound organelles which convert fat into sugars

Which of the following is NOT a steroid?

- A. Cholesterol
- B. Vitamin D

- C. Testosterone
- D. Thyroxine
- E. Cortisol

What level(s) of protein structure is characterized by α -helices and β -sheets?

- A. Primary
- B. Secondary
- C. Tertiary
- D. Quaternary
- E. Secondary and tertiary

What is the major difference between prokaryotes and eukaryotes?

- A. Only eukaryotes have a cell wall
- B. Eukaryotes are all autotrophic.
- C. Eukaryotes lack ribosomes.
- D. Prokaryotes have no nuclear membrane.
- E. Prokaryotes have mitochondria.

In which of the following would you find cristae?

- A. Endoplasmic reticulum
- B. Mitochondria
- C. Nucleus
- D. Nucleolus
- E. Ribosomes

Which enzyme changes disaccharides to monosaccharides?

- A. Lactase
- B. Kinase
- C. Zymogen
- D. Lipase
- E. Phosphorylase

Which of the following statements about evolution is correct?

- A. Lamarck's theory of use and disuse adequately describes why giraffes have long necks.
- B. Darwin's theory of natural selection relies solely on genetic mutation.
- C. Darwin's theory explains the evolution of man from present day apes.

D. Darwin's theory of natural selection relies solely on environmental conditions.

E. Natural selection is the process in which random mutations are selected for survival by the environment.

Which of the following is not a lipid derivative?

A. Waxes

B. Steroids

C. Carotenoids

D. Albumins

E. Lecithin