Enzymes Check

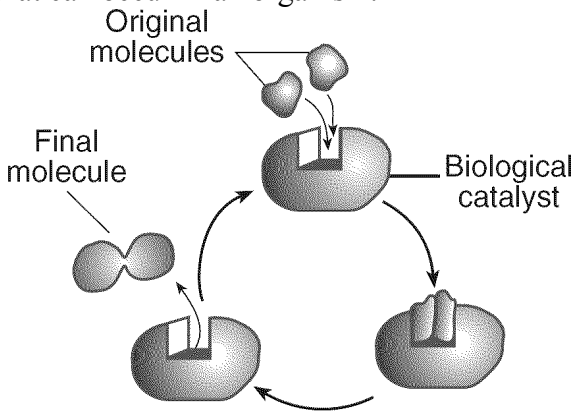
1. Experiments revealed the following information about a certain molecule:

   — It can be broken down into amino acids.
   — It can break down proteins into amino acids.
   — It is found in high concentrations in the small intestine of humans.

   This molecule is most likely

   A) an enzyme
   B) an inorganic compound
   C) a hormone
   D) an antigen

2. The diagram below represents a series of reactions that can occur in an organism.



   This diagram best illustrates the relationship between

   A) enzymes and synthesis
   B) amino acids and glucose
   C) antigens and immunity
   D) ribosomes and sugars

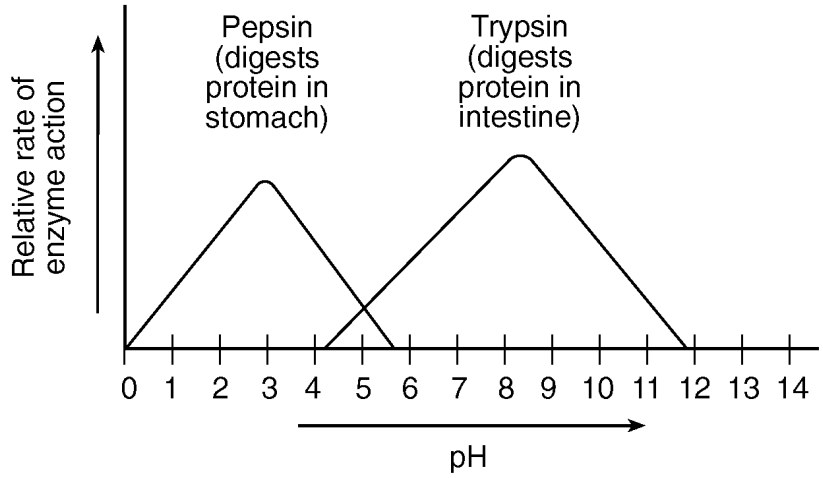
3. Which statement describes all enzymes?

   A) They control the transport of materials.
   B) They provide energy for chemical reactions.
   C) They affect the rate of chemical reactions.
   D) They absorb oxygen from the environment.

4. Which statement about enzymes is *not* correct?

   A) Enzymes are composed of polypeptide chains.
   B) Enzymes form a temporary association with a reactant.
   C) Enzymes are destroyed when they are used and must be synthesized for each reaction.
   D) Enzymes are specific because of their shape and catalyze only certain reactions.

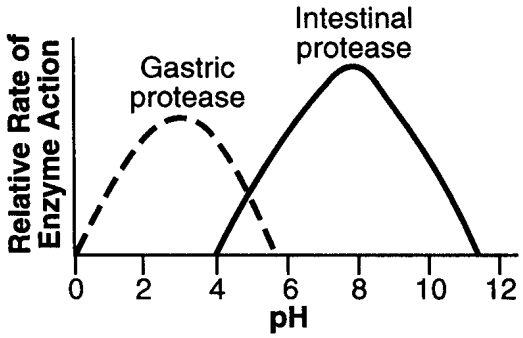
5. Base your answer to the following question on the graph below and your knowledge of biology.



Pepsin works best in which type of environment?

A) acidic, only
B) basic, only
C) neutral
D) sometimes acidic, sometimes basic

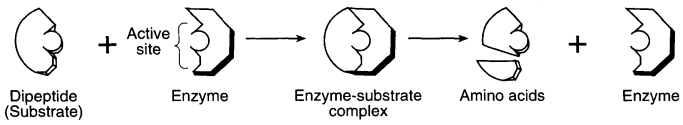
6. Base your answer to the following question on the graph below and on your knowledge of biology.



What is the optimum pH for the action of intestinal protease?

A) 5 **B) 8** C) 10 D) 12

7. A process that occurs in the human body is shown in the diagram below.



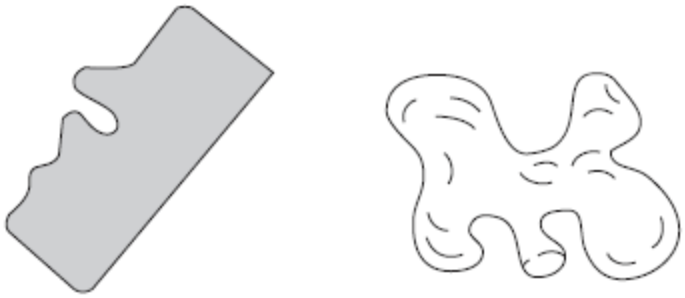
What would happen if a temperature change caused the shape of the active site to be altered?

A) The dipeptide would digest faster.
B) The dipeptide would digest slower or not at all.
C) The amino acids would combine faster.
D) The amino acids would combine slower or not at all.

8. Shrimp that live in the cold waters off Alaska will die if introduced into warm water. One likely reason these shrimp do not survive is that enzymes in the shrimp

A) start to replicate
B) change shape
C) are composed of fat molecules that melt
D) break down into small starch molecules

9. The diagrams below represent two molecules that are involved in metabolic activities in some living cells.



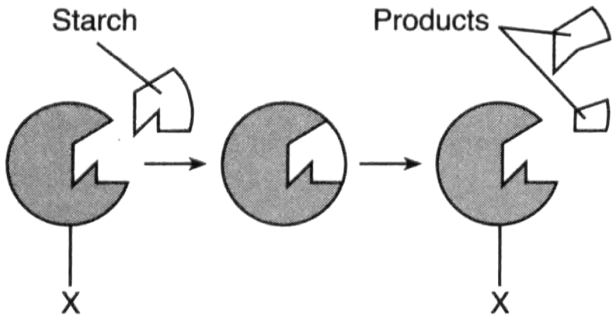
The shape of each of the molecules is important because

A) molecules having different shapes are always found in different organisms
B) the shape of a molecule determines how it functions in chemical reactions
C) the shape of a molecule determines the age of an organism
D) if the shape of any molecule in an organism changes, the DNA in that organism will also change

10. One effect of uncontrolled diabetes is that the blood might develop an acidic pH. As a result, cells may not be able to regulate their internal pH. Within these cells, this could cause a disruption of the function of biological catalysts known as

A) enzymes B) toxins
C) antibodies D) antigens

11. Base your answer to the following question on the diagram below, which represents stages in the digestion of a starch, and on your knowledge of biology.



The structure labeled *X* most likely represents

A) an antibody
B) a receptor molecule
C) an enzyme
D) a hormone

Answer Key
enzymes check

1. **A**
2. **A**
3. **C**
4. **C**
5. **A**
6. **B**
7. **B**
8. **B**
9. **B**
10. **A**
11. **C**