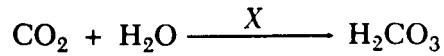


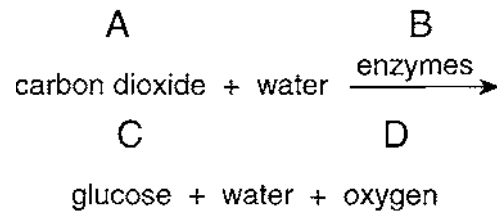
1. Compound X increases the rate of the reaction shown below.



Compound X is most likely

- (1) **an enzyme**                      (3) an indicator  
(2) a lipid molecule                (4) an ADP molecule
2. The enzyme beta-galactosidase is involved in a certain body reaction. What will most likely happen if beta-galactosidase is not available?
- (1) A different enzyme will be used in the reaction.  
(2) **The rate of the reaction will change.**  
(3) Different chemicals will be used in the reaction to replace the enzyme.  
(4) Coenzymes will produce beta-galactosidase.
3. Which statement best describes enzymes?
- (1) They slow down the rate of breathing.  
(2) They are the building blocks of polymers.  
(3) They speed up the conduction of impulses along a nerve cell.  
(4) **They influence the rate of chemical reactions.**
4. In order to survive, all organisms must carry out
- (1) autotrophic nutrition  
(2) heterotrophic nutrition  
(3) **enzyme-controlled reactions**  
(4) the process of locomotion

5. The equations below represent a summary of a cellular process. Letters A, B, C, and D represent some components of this process.



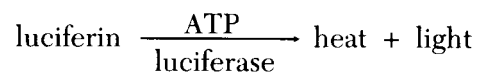
A chemical that destroys proteins was added to a cell in which this process was taking place.

Which component would most likely have been affected first?

- (1) A                                      (3) C  
(2) **B**                                      (4) D
6. The reaction below occurs in many organisms.
- $$\text{urea} + \text{water} \xrightarrow{\text{urease}} \text{carbon dioxide} + \text{ammonia}$$

This reaction would still occur, but at a much slower rate, in the absence of

- (1) urea                                      (3) **urease**  
(2) carbon dioxide                      (4) ammonia
7. The equation below summarizes the process that produces the flashing light of a firefly. The molecule luciferin is broken down, and energy is released in the form of heat and light.



In this process, luciferase functions as

- (1) a reactant                              (3) an inorganic catalyst  
(2) a substrate                              (4) **an enzyme**
8. Although a certain molecule is involved in a specific reaction, its structure and chemical composition are exactly the same after the reaction as before the reaction. This molecule is most likely classified as
- (1) **an enzyme**                              (3) a sugar  
(2) a salt                                      (4) an acid