

RQ Chemical Reactions

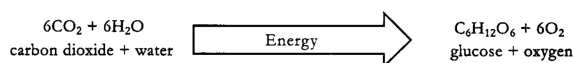
Name: _____

Date: _____

1. The reaction of CaO and water is exothermic. A student mixes the two chemicals in a test tube and touches the side of the test tube. Which statement describes the student's observation?

- A. The test tube becomes hot as heat is released.
- B. The test tube becomes hot as heat is absorbed.
- C. The test tube becomes cold as heat is released.
- D. The test tube becomes cold as heat is absorbed.

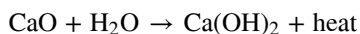
2. Use the graphic below to answer the following question.



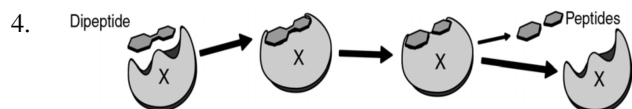
Which of the following is a reactant in the above chemical reaction?

- A. Carbon dioxide B. Glucose
- C. Oxygen D. Energy

3. How is this reaction classified?



- A. endothermic B. exothermic
- C. decomposition D. double replacement



In the diagram above, the substance labeled X is *most* likely—

- A. an enzyme. B. water.
- C. ATP. D. oxygen.

5. Which of the following statements describes an exergonic reaction but *not* an endergonic reaction?

- A. Energy is destroyed during the reaction.
- B. Energy is used to form chemical bonds.
- C. Energy is used to break chemical bonds.
- D. Energy is released as light during the reaction.

6. Jessi is completing an investigation. She could conclude a chemical change is taking place if which of the following occurs?

- A. The size gets smaller.
- B. A new substance forms.
- C. The state of matter changes.
- D. The shape becomes different.

7. The role of an enzyme in a biochemical reaction is to change which of the following?

- A. to determine the type of reaction
- B. to act as a catalyst by increasing the rate at which a reaction occurs
- C. to change the the pH at which the reaction occurs
- D. to increase the temperature at which the reaction occurs

8. H₂O₂, hydrogen peroxide, naturally breaks down into H₂O and O₂ over time.

MnO₂, manganese dioxide, can be used to increase the rate of this reaction. What type of substance is MnO₂?

- A. a catalyst B. an enhancer
- C. an inhibitor D. a reactant

9. Students combined baking soda and vinegar to demonstrate a chemical reaction.

What indicates that a chemical reaction occurred?

- A. the formation of bubbles
- B. a reduction in total mass
- C. the disappearance of atoms
- D. an increase in the number of atoms

10. $2\text{Na(s)} + \text{Cl}_2\text{(g)} \rightarrow 2\text{NaCl(s)}$

Which of the following is a product of this chemical reaction?

- A. Sodium (Na)
- B. Chlorine (Cl)
- C. Sodium Chloride (NaCl)
- D. Both Sodium (Na) and Chlorine (Cl)