

1 Chemistry is

- A a characteristic of a substance that can be observed without changing the substance into another substance.
- B the study of matter and how matter changes.
- C anything that has mass and takes up space.
- D a rapid reaction between oxygen and a substance called a fuel.

2 The only sure evidence for a chemical reaction is

- A the formation of a gas.
- B a color change.
- C the production of one or more new substances.
- D changes in properties.

3 A material used to decrease the rate of a chemical reaction is a(n)

- A inhibitor.
- B catalyst.
- C enzyme.
- D fuel.

4  $\text{CaCO}_3$  represents a chemical

- A symbol.
- B formula.
- C subscript.
- D reaction.

5 Which is the correct chemical equation for the following statement?  
Sodium reacts with oxygen in a 2 to 1 ratio to produce sodium oxide.

- A  $4 \text{Na} + \text{O}_2 \longrightarrow 2 \text{Na}_2\text{O}$
- B  $2 \text{Na} + \text{O}_2 \longrightarrow 2 \text{NaO}$
- C  $\text{Na}_2\text{O} + \text{O}_2 \longrightarrow 2 \text{NaO}$
- D  $\text{Na}_2 + \text{O}_2 \longrightarrow \text{Na}_2\text{O}_2$

- 6 The principle of conservation of mass is true
- A only for reactions that take place in open systems.
  - B only for reactions that take place in closed systems.
  - C for reactions in both open and closed systems.
  - D for no reactions at all.
- 7 In chemical reactions, what does the principle of conservation of mass mean?
- A Matter is not created or destroyed.
  - B The total mass of the reactants is greater than the total mass of the products.
  - C The total mass of the reactants is less than the total mass of the products.
  - D Matter is not changed.
- 8 Chemicals that act as biological catalysts by speeding up reactions in living things are called
- A inhibitors.
  - B enzymes.
  - C fuels.
  - D reactants.
- 9 Which of the following is an example of how to supply activation energy to begin a reaction?
- A Cool the reaction flask in an ice bath.
  - B Add a catalyst.
  - C Heat the reaction flask on a hot plate.
  - D Add an inhibitor.
- 10 A bottle of hydrogen peroxide that eventually turns into a bottle of water and oxygen gas is an example of a
- A synthesis reaction.
  - B decomposition reaction.
  - C replacement reaction.
  - D precipitate reaction.