InterActions Unit 5 Chapter 1 Sample Quiz KEY

See the Scientists' Consensus Sheets for assistance.

1. Which of the following is a chemical property of a substance?

    a. color

    b. texture

    c. flammable (burns)

    d. shape

    A chemical property is a description or measurement of how a substance interacts during a chemical interaction where a new substance is formed during the interaction. To answer this question you need to know what a chemical property is.

2. During a chemical interaction

    a. a new substance with different properties may appear

    b. a substance may disappear

    c. a new substance in a different phase may appear (at room temperature)

    d. All of the above

    During a chemical interaction a new substance is formed and a substance may disappear. To answer this question you need to know what a chemical interaction is.

3. Which property is the most useful in identifying a certain chemical?

    a. mass.

    b. density.

    c. color.

    d. flexibility.

    Characteristic properties such as density, melting point, and boiling point are more useful in determining a substance than properties such as mass and color. To answer this question you need to understand that a characteristic property is a unique property of the substance.

4. In the pH scale, values above 7 are

   a. bases.

   b. acids.

   c. neutral.

   d. None of the above.

   In the pH scale values from 0-7 are acids, values of 7 are neutral, and values from 7-14 are bases. To answer this question you need to know the pH scale.

5. Drain opener is

   a. a base.

   b. an acid.

   c. a neutral substance.

   d. None of the above.

   Most cleansers are bases. To answer this question you need to know that drain opener is a base.

6. Which of the following are neutral substances?

   a. water, milk, and lemon juice.

   b. water, apple juice, baking soda.

   c. water, milk, salt.

   d. water, baking soda, bleach.

   Most cleansers are bases and juices are acidic. To answer this question you need to know common neutral substances.

7. carbon dioxide reacts with water to produce carbonic acid.

    a. **reactant(s):** carbon dioxide; **product(s):** water and carbonic acid.

    b. **reactant(s):** carbon and carbonic acid; **product(s):** water.

    c. **reactant(s):** carbon dioxide and water; **product(s):** carbonic acid.

    d. **reactant(s):** carbonic acid; **product(s):** water and carbon dioxide.

    The reactants are the substances that undergo a chemical interaction producing new substance(s) known as the product(s). To answer this question you need to know what reactants and products are.

8. When methane is burned it interacts with oxygen to form carbon dioxide and water vapor. Which of the following is the word chemical equation for this reaction?

    a. methane + carbon dioxide → water + oxygen.

    b. dioxide + carbon → methane oxygen + water.

    c. oxygen + carbon dioxide → methane + water

    d. methane + oxygen → carbon dioxide + water.

    The reactants are the original substances and the products are the new substances formed after a chemical interaction. To answer this question you need to know how to write a word chemical equation.

9. During a chemical interaction the mass of the reactants...

    a. always equals the mass of the products.

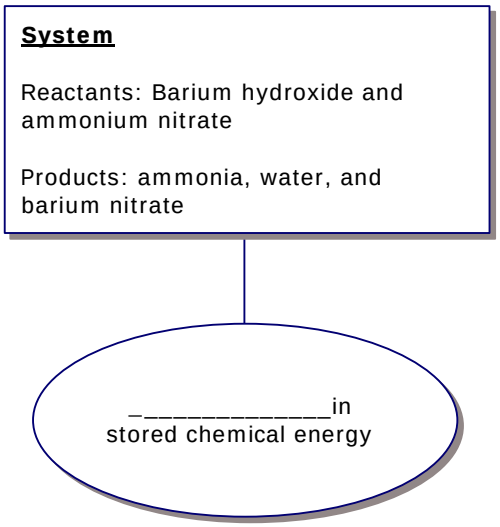
    b. may be greater than the mass of the products.

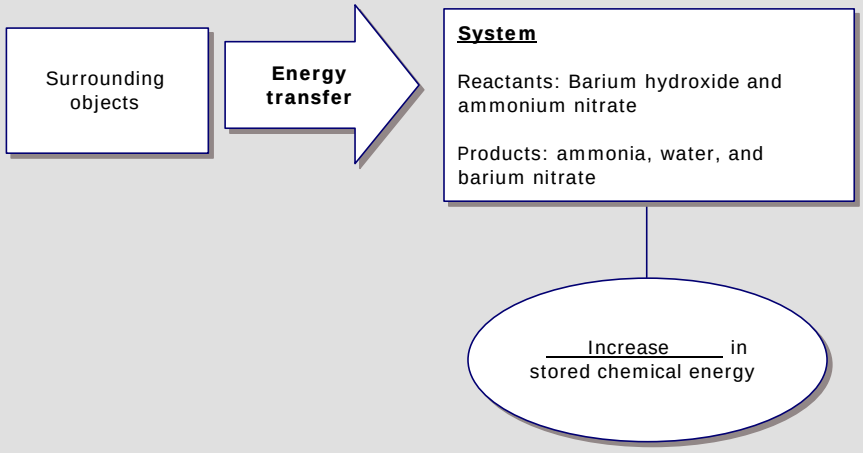
    c. may be less than the mass of the products.

    d. has nothing to do with the mass of the products.

    Mass is conserved during a chemical interaction. To answer this question you need to know about the Law of Conservation of Mass for chemical reactions.

10. Below is an incomplete energy diagram for the reaction between barium hydroxide and ammonium nitrate to produce ammonia, water, and barium nitrate. When these two substances are mixed together in a flask, the flask feels cool. Draw and label the energy transfer arrow (energy input or energy output and the type of energy transfer). Fill in the blank of the energy oval.





During an endothermic reaction energy is absorbed because the stored chemical energy of the product is greater than that of the reactant. To answer this question you need to know what an endothermic reaction is and how to draw an energy diagram describing it.