



Name _____ Class _____ Date _____

1

Given the system at equilibrium:

What will be the result of an **increase in temperature at constant pressure**?

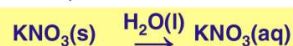
- A** The equilibrium will shift to the left, and the concentration of $\text{NO}_2(\text{g})$ will decrease.
- B** The equilibrium will shift to the left, and the concentration of $\text{NO}_2(\text{g})$ will increase.
- C** The equilibrium will shift to the right, and the concentration of $\text{NO}_2(\text{g})$ will decrease.
- D** The equilibrium will shift to the right, and the concentration of $\text{NO}_2(\text{g})$ will increase.

2Which statement must be true for any **chemical reaction at equilibrium**?

- A** The concentration of the products is greater than the concentration of the reactants.
- B** The concentration of the products is less than the concentration of the reactants.
- C** The concentration of the products and the concentration of the reactants are equal.
- D** The concentration of the products and the concentration of the reactants are constant.

3As the temperature of a substance decreases, the **average kinetic energy** of its particles**4**

Given the equation:

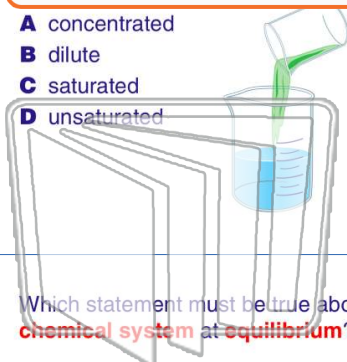
**5**

PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

7

- A** concentrated
- B** dilute
- C** saturated
- D** unsaturated

Which change will result in a decrease in the amount of $\text{NO}(\text{g})$ formed?

- A** decreasing the pressure
- B** decreasing the concentration of $\text{N}_2(\text{g})$
- C** increasing the concentration of $\text{O}_2(\text{g})$
- D** increasing the temperature

9Which statement must be true about a **chemical system at equilibrium**?

- A** The forward and reverse reactions stop.
- B** The concentration of reactants and products are equal.
- C** The rate of the forward reaction is equal to the rate of the reverse reaction.
- D** The number of moles of reactants is equal to the number of moles of product.

10Adding a **catalyst** to a **chemical reaction** results in

- A** a decrease in activation energy and a decrease in the reaction rate
- B** a decrease in activation energy and an increase in the reaction rate
- C** an increase in activation energy and a decrease in the reaction rate
- D** an increase in activation energy and an increase in the reaction rate



Name _____ Class _____ Date _____

1

Given the system at equilibrium:



What will be the result of an **increase in temperature at constant pressure**?

- A The equilibrium will shift to the left, and the concentration of $\text{NO}_2(\text{g})$ will decrease.
- B The equilibrium will shift to the left, and the concentration of $\text{NO}_2(\text{g})$ will increase.
- C The equilibrium will shift to the right, and the concentration of $\text{NO}_2(\text{g})$ will decrease.
- D The equilibrium will shift to the right, and the concentration of $\text{NO}_2(\text{g})$ will increase.

2

Which statement must be true for any **chemical reaction at equilibrium**?

- A The concentration of the products is greater than the concentration of the reactants.
- B The concentration of the products is less than the concentration of the reactants.
- C The concentration of the products and the concentration of the reactants are equal.
- D The concentration of the products and the concentration of the reactants are constant.

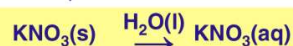
3

As the temperature of a substance decreases, the **average kinetic energy** of its particles



4

Given the equation:



5

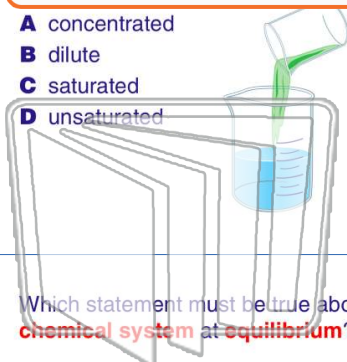


PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

7

- A concentrated
- B dilute
- C saturated
- D unsaturated



9

Which statement must be true about a **chemical system at equilibrium**?

- A The forward and reverse reactions stop.
- B The concentration of reactants and products are equal.
- C The rate of the forward reaction is equal to the rate of the reverse reaction.
- D The number of moles of reactants is equal to the number of moles of product.

10

Which change will result in a decrease in the amount of $\text{NO}(\text{g})$ formed?

- A decreasing the pressure
- B decreasing the concentration of $\text{N}_2(\text{g})$
- C increasing the concentration of $\text{O}_2(\text{g})$
- D increasing the temperature

Adding a **catalyst** to a **chemical reaction** results in

- A a decrease in activation energy and a decrease in the reaction rate
- B a decrease in activation energy and an increase in the reaction rate
- C an increase in activation energy and a decrease in the reaction rate
- D an increase in activation energy and an increase in the reaction rate