

## REVIEW

## 5

## SECTION 5.4

# Rates of Change

1. **State** Le Chatelier's principle.

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2. **Describe** two ways you could make table salt dissolve faster in water.

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3. **Predict** the shift of equilibrium for each of the following conditions in the following reaction involving gaseous reactants and products:  $\text{N}_2 + 3\text{H}_2 \rightleftharpoons 2\text{NH}_3 + \text{heat}$

a.  $\text{NH}_3$  is added to the reaction.

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b.  $\text{NH}_3$  is removed from the reaction.

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c. The pressure is increased.

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d. The temperature is decreased.

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4. **Predict** how each of the following changes will affect the following reaction involving gaseous reactants and products:  $2\text{NO}_2 \rightleftharpoons \text{N}_2\text{O}_4 + \text{heat}$

a. raising the temperature

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b. increasing the pressure

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c. removing  $\text{N}_2\text{O}_4$  from the equilibrium mixture

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d. adding  $\text{NO}_2$  to the equilibrium mixture

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