Chemical Reactions

CHEM

Name _____ Class _____ Date _____

1 A 1.0 gram sample of powdered Zn reacts **faster** with HCl than a single 1.0 gram piece of Zn because the **surface atoms** in powdered Zn have

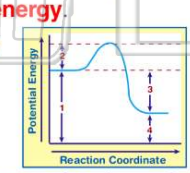
A higher average kinetic energy
B lower average kinetic energy
C more contact with the H+ ions in the acid
D less contact with the H+ ions in the acid

2 In a **reversible reaction**, **chemical equilibrium** is attained when the

A rate of the forward reaction is greater than the rate of the reverse reaction
B rate of the reverse reaction is greater than the rate of the forward reaction
C concentration of the reactants reaches zero
D concentration of the products remains constant

3 The potential energy diagram below represents the reaction **A + B → C + energy**.

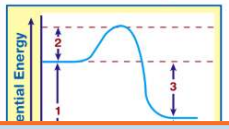
Which statement correctly describes this reaction?



A It is endothermic and energy is absorbed.
B It is endothermic and energy is released.
C
D

4 The potential energy diagram below represents the reaction **A + B → C + energy**.

Which **numbered interval** will change with the addition of a **catalyst** to the system?



5

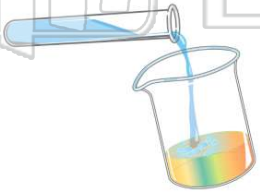
7

A activation energy
B ionization energy
C heat of reaction
D heat of vaporization

C lowering the frequency of effective collisions between reacting molecules
D increasing the frequency of effective collisions between reacting molecule

9 Which **unit** is used to express the energy absorbed or released during a chemical reaction?

A kelvin
B calorie
C volt
D torr



10 Which **substance** will readily **sublime** at STP?

A Fe(s)
B $C_6H_{12}O_6(s)$
C NaCl(s)
D $CO_2(s)$

ANSWER KEY

A 1.0 gram sample of powdered Zn reacts **faster** with HCl than a single 1.0 gram piece of Zn because the **surface atoms** in powdered Zn have

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c

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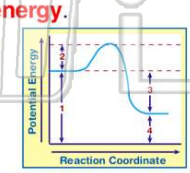
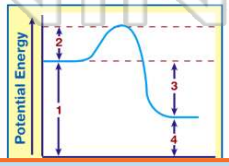


A It is endothermic and energy is absorbed.
B It is endothermic and energy is released.
C It is exothermic and energy is absorbed.
D

d

The potential energy diagram below represents the reaction **A + B → C + energy**.

Which **numbered interval** will change with the addition of a **catalyst** to the system?



A 1 **C** 3
B 2 **D** 4

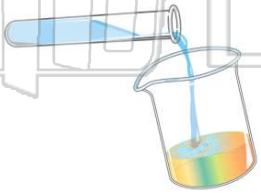
b

B ionization energy
C heat of reaction
D heat of vaporization

collisions between reacting molecules
D increasing the frequency of effective collisions between reacting molecule

Which **unit** is used to express the energy absorbed or released during a chemical reaction?

A kelvin
B calorie
C volt
D torr



b

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