ONTARIO SCIENCE, GRADE 10, ACADEMIC (SNC2D) · UNIT B · 25 QUESTIONS

Chemistry: Chemical Reactions — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **Which observation is evidence that a chemical reaction has occurred?**

- A A gas is produced and bubbles form in a liquid
- B Ice melts to form liquid water
- C Water evaporates from a beaker
- D A solid dissolves in water with no temperature change

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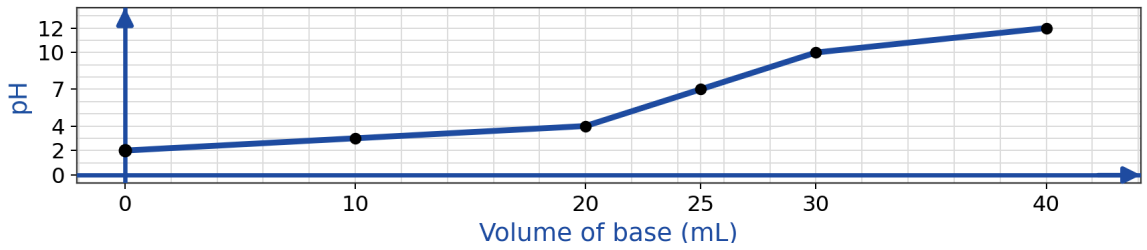
2 **In the word equation hydrogen + oxygen → water, the reactants are**

- **A** Water only
- **B** Hydrogen and oxygen
- **C** Oxygen and water
- **D** Hydrogen and water

Understand It with Pulse | Flag a mistake

3 **The graph shows measured pH values as base is added during a titration. The pH after 30 mL of base has been added is**



ANSWER _____

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4 **When an acid reacts with a base in a neutralization reaction, the products are**

- **A** a metal and hydrogen gas
- **B** carbon dioxide and water only
- **C** a salt and water
- **D** an acid and a base

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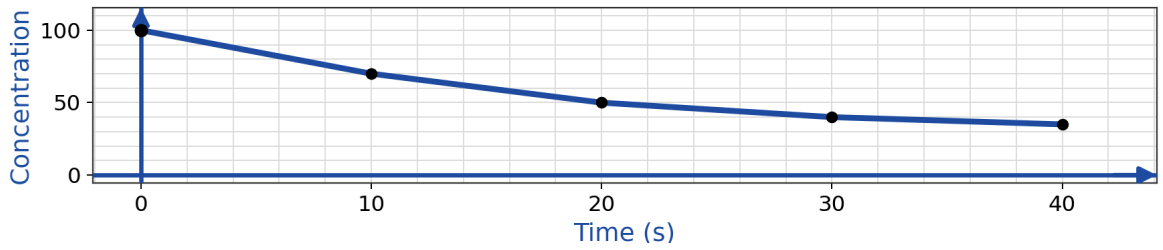
5 **The graph shows the measured concentration of a reactant during a reaction. The concentration after 20 seconds, in arbitrary units, is**



ANSWER _____

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6 **Hydrochloric acid reacts with sodium hydroxide. The salt produced is**

A Sodium chloride

B Sodium carbonate

C Calcium chloride

D Potassium nitrate

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7 **The complete combustion of methane in oxygen produces**

A hydrogen gas and carbon

B carbon dioxide and water

C carbon monoxide only

D methane and oxygen

Understand It with Pulse | Flag a mistake

8 **When calcium carbonate is heated, it decomposes into calcium oxide and**

A Hydrogen

B Nitrogen

C Carbon dioxide

D Oxygen

Understand It with Pulse | Flag a mistake

9 **Zinc metal is placed in copper sulfate solution. A coating of copper forms on the zinc. This reaction is a**

A Neutralization reaction

B Synthesis reaction

C Decomposition reaction

D Single displacement reaction

Understand It with Pulse | Flag a mistake

10 **When silver nitrate solution is mixed with sodium chloride solution, a white solid forms. The white solid is best described as a**

A Precipitate

B Reactant

C Catalyst

D Gas

Understand It with Pulse | Flag a mistake

11 **In the balanced equation $CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$, the coefficient in front of O_2 is**

ANSWER

Understand It with Pulse | Flag a mistake

12 **Blue litmus paper turns red when placed in a solution that is**

A Saturated

B Acidic

C Basic

D Neutral

Understand It with Pulse | Flag a mistake

13 **On the pH scale, a solution with pH 7 is**

A Strongly acidic

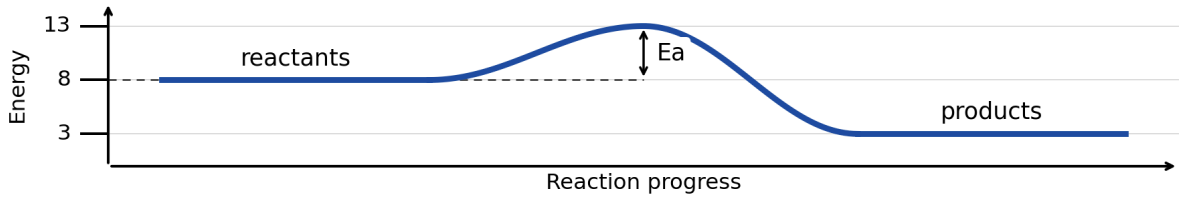
B Weakly acidic

C Neutral

D Strongly basic

Understand It with Pulse | Flag a mistake

14 **The energy diagram shows reactants at an energy level of 8 , a peak at 13 , and products at 3 . The activation energy, in arbitrary units, is**



ANSWER

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15 **Acid rain is mainly caused by sulfur dioxide and nitrogen oxides released from**

A photosynthesis in forests

B evaporation from lakes

C erosion of limestone

D burning fossil fuels

Understand It with Pulse | Flag a mistake

16 **If acid splashes into a student's eyes in the lab, the first action should be to**

A flush the eyes with water at an eyewash station

B rub the eyes vigorously

C apply a base directly to the eyes

D wait until the end of the class

Understand It with Pulse | Flag a mistake

17 **In the balanced equation $N_2 + 3H_2 \rightarrow 2NH_3$, the coefficient in front of H_2 is**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **Increasing the temperature of reactants usually**

A decreases the rate of reaction

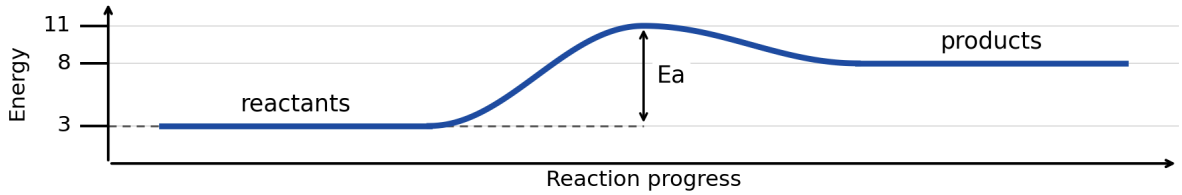
B increases the rate of reaction

C stops the reaction completely

D changes the products to reactants

Understand It with Pulse | Flag a mistake

19 **The energy diagram shows reactants at an energy level of 3 , a peak at 11 , and products at 8 . The products are at a higher energy level than the reactants. This reaction is**



A Exothermic

B Neutralization

C Endothermic

D Decomposition

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20 **When diluting a concentrated acid, the safe procedure is to**

- **A** add water quickly to the acid
- **B** pour the acid down the drain first
- **C** heat the acid before adding water
- **D** add acid slowly to water, stirring constantly

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21 **In the balanced equation $4Al + 3O_2 \rightarrow 2Al_2O_3$, the coefficient in front of Al is**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **Limestone is sometimes added to an acidic lake because limestone**

- **A** is a base that neutralizes some of the acid
- **B** is an acid that lowers the pH further
- **C** kills all fish in the lake
- **D** evaporates the lake water

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23 **Which practice best reduces harm from household chemical waste?**

- **A** Pour leftover chemicals down the drain
- **B** Take leftover chemicals to a hazardous waste depot
- **C** Bury leftover chemicals in the garden
- **D** Mix all leftover chemicals together

Understand It with Pulse | Flag a mistake

24 **Sulfuric acid reacts with potassium hydroxide. The two products are potassium sulfate and**

A Oxygen gas

B Carbon dioxide

C Water

D Hydrogen gas

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25 **A student writes the word equation for the reaction of magnesium with oxygen. The correct product is**

A Magnesium carbonate

B Magnesium chloride

C Magnesium hydroxide

D Magnesium oxide

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ANSWER KEY

1.	A	**10.**	A	**19.**	C
2.	B	**11.**	2	**20.**	D
3.	10	**12.**	B	**21.**	4
4.	C	**13.**	C	**22.**	A
5.	50	**14.**	5	**23.**	B
6.	A	**15.**	D	**24.**	C
7.	B	**16.**	A	**25.**	D
8.	C	**17.**	3		
9.	D	**18.**	B		

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