ENGLAND GCSE CHEMISTRY OCR GATEWAY FOUNDATION · UNIT 3 · 25 QUESTIONS

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 so it can be fixed.

1 **Paintbrushes apply paint to a wall. What is the paint made of?**

- A a mixture of substances
- B a single element, nothing else
- C a single compound, nothing else
- D pure water with nothing in it

Understand It with Pulse | Flag a mistake

2 **A castle wall is made of stone. What type of rock is limestone?**

- A volcanic
- B metamorphic
- C sedimentary
- D igneous

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3 **A chocolate cake is baked. Is baking a chemical change?**

- A sometimes
- B no
- C never
- D yes

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4 **A cup of coffee cools down. Energy is transferred to the surroundings. What type of change is this?**

- A a reversible reaction
- B an energy transfer
- C a chemical change
- D a neutralisation

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5 **An ice cream cone melts. What is the melting point of the ice cream?**

- A around 0 degrees Celsius
- B around 37 degrees Celsius
- C around 100 degrees Celsius
- D around minus 20 degrees Celsius

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6 **Lemons contain citric acid. What do acids make with metals?**

- A a salt and oxygen gas
- B water only, nothing else
- C a salt and water, never hydrogen
- D a salt and hydrogen

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7 **What is the mass of 5 moles of a substance with a relative formula mass of 20?**

- A 110 g
- B 200 g
- C 50 g
- D 100 g

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8 **The maximum possible mass of product is 20 g. A student makes 16 g. What is the percentage yield?**

- A 80%
- B 70%
- C 160%
- D 90%

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9 **What is the relative formula mass of hydrogen chloride, HCl?**

- A 44.5
- B 73
- C 36.5
- D 32.5

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10 **A reaction makes 20 g of useful product from 40 g of reactants in total. What is the atom economy?**

- A 50%
- B 150%
- C 25%
- D 100%

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11 **What is the relative formula mass of methane, CH_4?**

- A 12
- B 16
- C 20
- D 14

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12 **A solution has 10 g of salt in 2 cubic decimetres of water. What is its concentration?**

- A 5 g/dm³
- B 12 g/dm³
- C 2 g/dm³
- D 20 g/dm³

Understand It with Pulse | Flag a mistake

13 **Will iron displace copper from its salt solution?**

A yes

B only with a catalyst

C no

D only when heated

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14 **A solution has a hydrogen ion concentration of 10^{-7}mol per cubic decimetre. What is its pH?**

A 8

B 6

C 9

D 7

Understand It with Pulse | Flag a mistake

15 **Why are hydrogen fuel cells not yet used in most cars?**

A hydrogen fuel cells are too heavy

B fuel cells make too much electricity

C few places sell hydrogen fuel

D hydrogen is hard to store safely

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16 **How many moles are there in 40 g of a substance with a relative formula mass of 20 ?**

A 1

B 2

C 4

D 6

Understand It with Pulse | Flag a mistake

17 **What forms at the anode during the electrolysis of copper sulfate solution?**

A oxygen

B hydrogen

C lead

D bromine

Understand It with Pulse | Flag a mistake

18 **What do acids produce in water?**

A oxygen

B chloride ions

C hydrogen ions

D hydroxide ions

Understand It with Pulse | Flag a mistake

19 **How many moles are there in 12 g of a substance with a relative formula mass of 20?**

- A 1.2
- B 1.8
- C 0.3
- D 0.6

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20 **Why is water the only waste product of a hydrogen fuel cell?**

- A the cell filters out all waste gases
- B the fuel cell runs on pure water
- C oxygen absorbs the waste products
- D hydrogen burns cleanly in oxygen

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21 **What is the mass of 2 moles of a substance with a relative formula mass of 20?**

- A 40 g
- B 80 g
- C 20 g
- D 50 g

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22 **The maximum possible mass of product is 40 g. A student makes 16 g. What is the percentage yield?**

- A 80%
- B 30%
- C 40%
- D 50%

Understand It with Pulse | Flag a mistake

23 **What gas is made at the anode when brine is electrolysed?**

- A hydrogen
- B oxygen
- C nitrogen
- D chlorine

Understand It with Pulse | Flag a mistake

24 **What is the relative formula mass of potassium chloride, KCl?**

- A 70.5
- B 149
- C 74.5
- D 82.5

Understand It with Pulse | Flag a mistake

25

A reaction makes 30 g of useful product from 50 g of reactants in total. What is the atom economy?

A 180%

B 60%

C 120%

D 30%

Understand It with Pulse

Flag a mistake

ANSWER KEY

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

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