ENGLAND GCSE CHEMISTRY OCR TWENTY FIRST CENTURY FOUNDATION · UNIT 6 · 25 QUESTIONS

Making Useful Chemicals — 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 **A castle built of limestone is damaged by acid rain. Which gas causes acid rain?**

- A carbon dioxide
- B nitrogen
- C sulfur dioxide
- D oxygen

Understand It with Pulse | Flag a mistake

2 **Lemons taste sour. What does sour taste show?**

- A an acid is present
- B a salt is present
- C a metal is present
- D an alkali is present

Understand It with Pulse | Flag a mistake

3 **A school lunch tray holds a meal. Why do we need food?**

- A to feel full after eating
- B for energy and growth
- C for fun only, not for health
- D to stay awake at night

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

5 **Paintbrushes are used with paint. What is paint an example of?**

A a formulation

B a pure substance

C a compound

D an element

Understand It with Pulse | Flag a mistake

6 **Silver coins are made of the element silver. What is the chemical symbol for silver?**

A Si

B S

C Sv

D Ag

Understand It with Pulse | Flag a mistake

7 **A solution has a hydrogen ion concentration of 10^{-3}mol per cubic decimetre. What is its pH?**

- A 5
- B 3
- C 4
- D 2

Understand It with Pulse | Flag a mistake

8 **A solution has a concentration of 2 mol per cubic decimetre. How many moles are in 2 cubic decimetres of the solution?**

- A 8 mol
- B 3 mol
- C 5 mol
- D 4 mol

Understand It with Pulse | Flag a mistake

9 **A student heats 50 g of water. Its temperature rises by 10 degrees Celsius. The specific heat capacity of water is 4.2 joules per gram per degree Celsius. How much energy is transferred to the water in kilojoules?**

- A 0.21 kJ
- B 21 kJ
- C 4.2 kJ
- D 2.1 kJ

Understand It with Pulse | Flag a mistake

10 **How many moles are there in 80 g of a substance with a relative formula mass of 20 ?**

- A 8
- B 2
- C 12
- D 4

Understand It with Pulse | Flag a mistake

11 **How can the rate of a reaction be measured using a gas syringe?**

- A by counting the bubbles
- B by weighing the gas syringe
- C by timing the gas collected
- D by measuring the temperature

Understand It with Pulse | Flag a mistake

12 **In a reaction, 10 g of A reacts with 6 g of B. What mass of product is made?**

- A 6 g
- B 4 g
- C 10 g
- D 16 g

Understand It with Pulse | Flag a mistake

13 **What is the relative formula mass of calcium oxide, CaO?**

A 52

B 112

C 56

D 64

Understand It with Pulse | Flag a mistake

14 **A reaction produces 60 cm cubed of gas in 10 seconds. What is the mean rate of reaction?**

A 6 cm^3/s

B 12 cm^3/s

C 5.5 cm^3/s

D 6.5 cm^3/s

Understand It with Pulse | Flag a mistake

15 **Why does a higher concentration increase the rate?**

- **A** collisions happen more often
- **B** the activation energy falls a lot
- **C** particles get bigger
- **D** particles move faster

Understand It with Pulse | Flag a mistake

16 **In an experiment, 40 cubic centimetres of gas are made in 10 seconds. What is the rate of the reaction?**

- **A** 8 cm^3/s
- **B** 4 cm^3/s
- **C** 400 cm^3/s
- **D** 2 cm^3/s

Understand It with Pulse | Flag a mistake

17 **A reaction should make 200 g of product but only makes 160 g. What is the percentage yield?**

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

Understand It with Pulse | Flag a mistake

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

- A 30%
- B 60%
- C 120%
- D 180%

Understand It with Pulse | Flag a mistake

19 **How many moles are there in 24 g of a substance with a relative formula mass of 40?**

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

Understand It with Pulse | Flag a mistake

20 **A reaction makes 1 moles of gas. What volume does the gas occupy at room temperature and pressure?**

- A 12 dm^3
- B 36 dm^3
- C 24 dm^3
- D 48 dm^3

Understand It with Pulse | Flag a mistake

21 **Which acid makes a sulfate salt?**

A hydrochloric acid

B ethanoic acid

C sulfuric acid

D nitric acid

Understand It with Pulse | Flag a mistake

22 **What do NPK fertilisers contain?**

A nitrogen, potassium and sulfur

B nitrogen, phosphorus and calcium together

C phosphorus, potassium and iron

D nitrogen, phosphorus and potassium

Understand It with Pulse | Flag a mistake

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

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

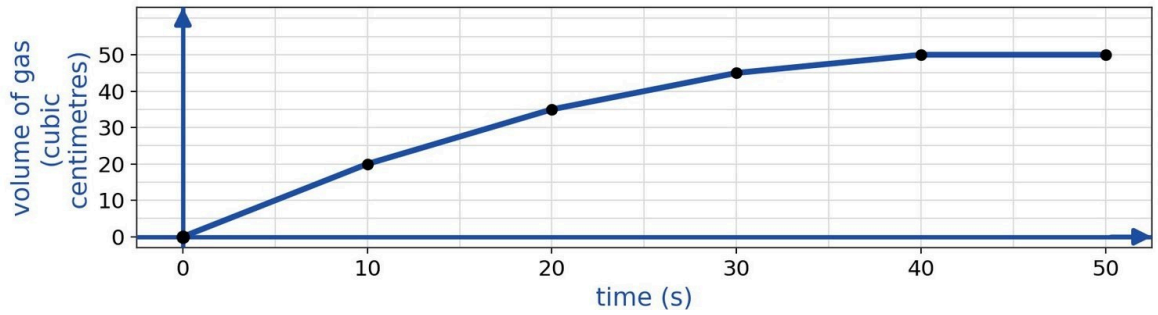
Understand It with Pulse | Flag a mistake

24 **What happens to equilibrium if the temperature rises?**

- A it moves to take in heat
- B the reaction stops
- C it moves to give out heat
- D it stays in the same place

Understand It with Pulse | Flag a mistake

25 **The graph shows the volume of gas made in a reaction. After how many seconds does the reaction finish?**



A 40

B 20

C 30

D 50

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

© 2026 Brett Robbins. All Rights Reserved.