ENGLAND GCSE COMBINED SCIENCE OCR GATEWAY FOUNDATION · UNIT 9 · 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 **An ice cream cone is put in a freezer. What happens to the liquid?**

- A it evaporates
- B it boils
- C it condenses
- D it freezes

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

5 **A cup of coffee is left for an hour. What happens to its temperature?**

- A it falls to room temperature
- B it stays the same all day
- C it rises above room temperature
- D it falls to zero degrees

Understand It with Pulse | Flag a mistake

6 **Paintbrushes are cleaned in water. Why does the paint wash off?**

- A the paint burns in the water
- B the paint dissolves
- C the paint melts in the water
- D the paint freezes in the water

Understand It with Pulse | Flag a mistake

7 **What is the pH of a neutral solution?**

- A 0
- B 1
- C 14
- D 7

Understand It with Pulse | Flag a mistake

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

- A 2
- B 0.5
- C 3
- D 1

Understand It with Pulse | Flag a mistake

9 **A reaction makes 25 g of useful product from 100 g of reactants in total. What is the atom economy?**

- A 12%
- B 25%
- C 75%
- D 50%

Understand It with Pulse | Flag a mistake

10 **Which pair of metals gives the biggest voltage in a cell?**

- A magnesium and copper
- B zinc and iron in the same cell
- C iron and copper in the same cell
- D copper and zinc in the same cell

Understand It with Pulse | Flag a mistake

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

A 4

B 6

C 2

D 1

Understand It with Pulse | Flag a mistake

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

A the cell filters out all waste gases

B oxygen absorbs the waste products

C hydrogen burns cleanly in oxygen

D the fuel cell runs on pure water

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

- A 8
- B 7
- C 6
- D 9

Understand It with Pulse | Flag a mistake

15 **The maximum possible mass of product is 20 g. A student makes 18 g. What is the percentage yield?**

- A 80%
- B 100%
- C 180%
- D 90%

Understand It with Pulse | Flag a mistake

16 **What is the mass of 3 moles of a substance with a relative formula mass of 20?**

- A 70 g
- B 120 g
- C 30 g
- D 60 g

Understand It with Pulse | Flag a mistake

17 **Which acid makes a nitrate salt?**

A hydrochloric acid

B ethanoic acid

C sulfuric acid

D nitric acid

Understand It with Pulse | Flag a mistake

18 **Will magnesium displace iron from its salt solution?**

A only with a catalyst

B yes

C only when heated

D no

Understand It with Pulse | Flag a mistake

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

A lead

B bromine

C hydrogen

D oxygen

Understand It with Pulse | Flag a mistake

20 **A reaction should make 50 g of product but makes 40 g. What is the percentage yield?**

A 10%

B 80%

C 90%

D 125%

Understand It with Pulse | Flag a mistake

21 **What is the relative formula mass of water, H_2O?**

- A 10
- B 20
- C 18
- D 16

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

23 **What is made when an acid reacts with an alkali?**

- **A** a salt and water
- **B** a salt and hydrogen
- **C** hydrogen only
- **D** a salt and oxygen

Understand It with Pulse | Flag a mistake

24 **A reaction makes 40 g of useful product from 80 g of reactants in total. What is the atom economy?**

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

Understand It with Pulse | Flag a mistake

25

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

- A hydrogen fuel cells are too heavy
- B few places sell hydrogen fuel
- C fuel cells make too much electricity
- D hydrogen is hard to store safely

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

© 2026 Brett Robbins. All Rights Reserved.