ENGLAND GCSE COMBINED SCIENCE OCR TWENTY FIRST CENTURY HIGHER · UNIT 12 · 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 wall is made of stone. What type of rock is limestone?**

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

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

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

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

A a compound

B a formulation

C an element

D a pure substance

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

A S

B Si

C Sv

D Ag

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5 **A chocolate cake is made from flour, sugar and eggs. Which ingredient provides protein?**

- A sugar
- B water
- C flour
- D eggs

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6 **Lemons contain citric acid. What is the pH of lemon juice likely to be?**

- A 12
- B 7
- C 14
- D 2

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7 **A solution has a hydrogen ion concentration of 10^{-1}mol per cubic decimetre. What is its pH?**

- **A** 1
- **B** 3
- **C** 0
- **D** 2

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8 **Which factor increases the rate of a reaction?**

- **A** a lower concentration
- **B** a lower temperature
- **C** larger pieces
- **D** a higher temperature

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9 **In an experiment, 60 cubic centimetres of gas are made in 10 seconds. What is the rate of the reaction?**

- A 600 cm^3/s
- B 3 cm^3/s
- C 6 cm^3/s
- D 12 cm^3/s

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10 **Why does a larger surface area increase the rate?**

- A more particles are exposed
- B particles move faster
- C the activation energy falls
- D the temperature rises

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11 **Why is iron used as the catalyst in the Haber process?**

- **A** it increases the yield
- **B** it is used up in the reaction
- **C** it cools the reaction down
- **D** it speeds up the reaction

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12 **A reaction should make 200 g of product but only makes 180 g. What is the percentage yield?**

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

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

A ethanoic acid

B nitric acid

C hydrochloric acid

D sulfuric acid

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14 **The maximum possible mass of product is 100 g. A student makes 90 g. What is the percentage yield?**

A 90%

B 80%

C 180%

D 100%

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15 **If the pressure rises, which side does equilibrium move to?**

- **A** neither side moves at all
- **B** the side with fewer molecules
- **C** the side with more energy
- **D** the side with more molecules in it

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16 **How many moles of gas occupy 48 cubic decimetres at room temperature and pressure?**

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

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

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

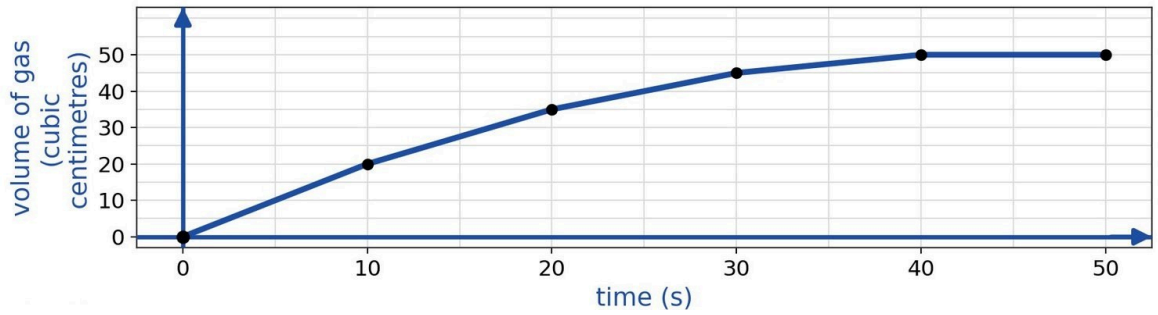
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18 **How many moles are there in 8 g of a substance with a relative formula mass of 40?**

- A 0.2
- B 0.6
- C 0.1
- D 0.4

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



A 40

B 50

C 20

D 30

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

- A 96 g
- B 58 g
- C 24 g
- D 48 g

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21 **What is neutralisation?**

- A an acid reacting with a base
- B a base reacting with water
- C an acid evaporating
- D an acid reacting with a metal

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22 **What happens to the reactant that is not limiting?**

- A some of it is left over
- B it is all used up as well
- C it evaporates away completely
- D it turns into the catalyst

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23 **What does a steep graph of gas volume against time show?**

- A a reaction that has finished
- B a slow rate of reaction
- C a reaction with no gas made
- D a fast rate of reaction

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24 **A reaction produces 20 cm cubed of gas in 10 seconds. What is the mean rate of reaction?**

- A 2 cm^3/s
- B 4 cm^3/s
- C 1.5 cm^3/s
- D 2.5 cm^3/s

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25 **In a second experiment, 50 cm cubed of gas are made in 30 seconds. What is the rate of the reaction?**

- A 2.1667 cm^3/s
- B 3.1667 cm^3/s
- C 1.6667 cm^3/s
- D 1.1667 cm^3/s

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ANSWER KEY

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

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