ENGLAND GCSE COMBINED SCIENCE EDEXCEL HIGHER · UNIT 13 · 25 QUESTIONS

Extracting Metals and Equilibria — 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 **Silver coins are made of the element silver. What is the chemical symbol for silver?**

- **A** S
- **B** Ag
- **C** Sv
- **D** Si

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2 **A chocolate cake rises in the oven. What makes it rise?**

- A the flour melts
- B the egg evaporates
- C the sugar freezes
- D a gas is made

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3 **An ice cream cone melts in the Sun. What is happening to the particles in the ice cream?**

- A they get smaller
- B they gain energy and move more
- C they lose energy and slow down a lot
- D they stop moving

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

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

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

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

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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 must be true for an equilibrium to form?**

A the temperature keeps changing

B the reaction is in a closed system

C the reaction is in an open beaker and gases escape

D all the products escape as gases

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8 **What happens when zinc is added to copper sulfate solution?**

- A zinc displaces copper
- B zinc dissolves and the solution turns blue
- C nothing happens, as zinc is less reactive
- D copper displaces zinc from the solution

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9 **What happens to the yield of ammonia if more nitrogen is added?**

- A it stays the same
- B the reaction stops
- C it decreases
- D it increases

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10 **What is the temperature used in the Haber process?**

- A 200 degrees Celsius
- B 100 degrees Celsius
- C 450 degrees Celsius
- D 800 degrees Celsius

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11 **In the Haber process, 1 mole of nitrogen reacts with 3 moles of hydrogen. How many moles of hydrogen react with 2 moles of nitrogen?**

- A 12
- B 6
- C 7
- D 5

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12 **Which metal is extracted by electrolysis?**

A zinc, which is extracted with carbon

B aluminium

C copper, which is extracted with carbon

D iron, which is extracted with carbon

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13 **Why is gold found uncombined in the Earth?**

A it is very unreactive

B it is made by volcanoes

C it is very reactive

D it dissolves in water

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14 **What does the Haber process make?**

A nitric acid, used to make fertilisers

B nitrogen gas for the air

C ammonia

D ammonium nitrate, used as a fertiliser

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15 **What does Le Chatelier's principle say?**

A a system stops when conditions change

B a system always moves to the right

C a system moves to oppose a change

D a system speeds up when heated

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16 **What is the pressure used in the Haber process?**

A 200 atmospheres

B 1 atmosphere

C 10 atmospheres

D 1000 atmospheres

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17 **What is the reactivity series?**

A a list of metals in alphabetical order

B a list of metals in order of their melting points

C a list of metals in order of their cost

D a list of metals in order of reactivity

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18 **Will copper displace zinc from zinc sulfate?**

A yes, copper is more reactive

B yes, zinc is less reactive

C no, copper is less reactive

D no, zinc is more reactive

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19 **What happens to an equilibrium if the pressure is increased?**

A it stays exactly where it was before

B it shifts to the side with more molecules in the gas

C the reaction stops completely at once

D it shifts to the side with fewer molecules

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20 **What is a reversible reaction?**

A a reaction that never finishes

B a reaction that can go both ways

C a reaction that makes two products

D a reaction that needs a catalyst

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21 **What is a displacement reaction?**

A a less reactive metal takes the place of a more reactive metal

B two metals swap places in a solution

C a metal dissolves in water

D a more reactive metal takes the place of a less reactive one

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22 **For an exothermic forward reaction, what happens to the yield if the temperature rises?**

- A the reaction stops
- B it falls
- C it rises
- D it stays the same

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23 **In the Haber process, 1 mole of nitrogen reacts with 3 moles of hydrogen. How many moles of hydrogen react with 3 moles of nitrogen?**

- A 10
- B 8
- C 18
- D 9

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24 **How are metals below carbon in the reactivity series extracted?**

A by dissolving them in water first

B by electrolysis, which needs a lot of energy

C by reduction with carbon

D by heating them on their own in air

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25 **Why does iron displace copper from copper sulfate?**

A iron is more reactive than copper

B copper is more reactive than iron

C iron is less reactive than copper

D iron dissolves in water more easily

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ANSWER KEY

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

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