ENGLAND GCSE CHEMISTRY EDEXCEL HIGHER · UNIT 4 · 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 **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 zero degrees
- C it falls to room temperature
- D it rises above room temperature

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2 **Silver coins conduct electricity well. Why?**

A they are cold

B they have free electrons

C they are heavy

D they are shiny and reflective

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

A sedimentary

B metamorphic

C igneous

D volcanic

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

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

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

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

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

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

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7 **Why is a catalyst used in the Haber process?**

- A to use up the nitrogen faster
- B to speed the reaction up
- C to shift the equilibrium towards ammonia
- D to raise the temperature of the reaction

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

A it increases

B it decreases

C it stays the same

D the reaction stops

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9 **What is a displacement reaction?**

A two metals swap places in a solution

B a metal dissolves in water

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

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

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10 **Which metal will displace copper from copper sulfate solution?**

- **A** gold, which is below copper in the series
- **B** copper, which is already in the solution
- **C** silver, which is below copper in the series
- **D** zinc

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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 1 moles of nitrogen?**

- **A** 4
- **B** 6
- **C** 3
- **D** 2

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12 **What happens to the ammonia made in the Haber process?**

A it is mixed with oxygen

B it is released into the air

C it is cooled and liquefied

D it is burned as a fuel

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

A it is very unreactive

B it dissolves in water

C it is made by volcanoes

D it is very reactive

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

A ammonia

B nitrogen gas for the air

C nitric acid, used to make fertilisers

D ammonium nitrate, used as a fertiliser

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

A a system always moves to the right

B a system stops when conditions change

C a system speeds up when heated

D a system moves to oppose a change

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

A copper is more reactive than iron

B iron is more reactive than copper

C iron dissolves in water more easily

D iron is less reactive than copper

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17 **Why does aluminium need electrolysis to extract it?**

A it does not conduct electricity at all

B it is too reactive for carbon

C it is found pure in the ground

D it melts at too low a temperature

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

A no, copper is more reactive

B yes, zinc is more reactive

C no, zinc is less reactive

D yes, copper is more reactive

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19 **What catalyst is used in the Haber process?**

A nickel

B iron

C copper

D platinum

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20 **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 7
- B 5
- C 12
- D 6

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21 **Why is unreacted nitrogen and hydrogen recycled in the Haber process?**

- A to make the catalyst work
- B to avoid wasting them
- C to increase the pressure
- D to cool the reaction down

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22 **What are the raw materials for the Haber process?**

- **A** ammonia and water
- **B** nitrogen and hydrogen
- **C** nitrogen and oxygen from the air
- **D** hydrogen and carbon monoxide

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23 **What shows the order of reactivity of metals?**

- **A** a list of metals in alphabetical order
- **B** the periodic table, in order of atomic number
- **C** the reactivity series
- **D** a list of metals in order of their cost

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24 **Why can carbon extract iron from its ore?**

A iron oxide dissolves in carbon

B iron is more reactive than carbon

C carbon melts at a lower temperature

D carbon is more reactive than iron

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25 **What is the order of reactivity, most reactive first?**

A magnesium, calcium, sodium, potassium

B potassium, sodium, calcium, magnesium

C calcium, magnesium, potassium, sodium

D sodium, potassium, magnesium, calcium

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ANSWER KEY

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

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