ENGLAND GCSE CHEMISTRY AQA HIGHER · UNIT 4 · 25 QUESTIONS

Chemical Changes — 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 is built of limestone. What is limestone made of?**

- A calcium sulfate, found in plaster
- B calcium carbonate
- C magnesium oxide, a white powder
- D sodium chloride, common salt

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2 **A cup of coffee is hot. How is energy transferred to the air?**

- A by radiation only, from the surface
- B by evaporation only, from the top
- C by condensation on the cold cup
- D by conduction and convection

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3 **Paintbrushes apply paint to a wall. What is the paint made of?**

A a single element, nothing else

B a mixture of substances

C pure water with nothing in it

D a single compound, nothing else

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

A the flour melts

B a gas is made

C the sugar freezes

D the egg evaporates

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5 **An ice cream cone is put in a freezer. What happens to the liquid?**

A it condenses

B it evaporates

C it freezes

D it boils

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

A 12

B 14

C 2

D 7

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

A a salt and oxygen

B a salt and water

C hydrogen only

D a salt and hydrogen

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8 **What is the positive electrode called?**

A the electrolyte

B the cathode

C the cell

D the anode

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

A ethanoic acid

B hydrochloric acid

C nitric acid

D sulfuric acid

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

A only with a catalyst

B only when heated

C yes

D no

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11 **What forms at the anode during the electrolysis of sodium chloride solution?**

A chlorine

B lead

C bromine

D hydrogen

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

A 3

B 0

C 2

D 1

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13 **Which two solutions make barium sulfate when mixed?**

A sodium sulfate and sodium chloride

B barium chloride and sodium chloride

C barium nitrate and sodium chloride

D barium chloride and sodium sulfate

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14 **Why do the carbon anodes in aluminium extraction need replacing?**

A they melt in the hot electrolyte

B they burn away in oxygen

C they dissolve in the aluminium

D they are used up making cryolite

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15 **What are the products of electrolysing water with a little acid in it?**

- A hydrogen gas on its own
- B oxygen and chlorine gases
- C hydrogen and oxygen
- D hydrogen and chlorine gases

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

- A no, copper is more reactive
- B yes, copper is more reactive
- C no, zinc is less reactive
- D yes, zinc is more reactive

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17 **During electrolysis, metal ions gain electrons at the cathode. What is this process called?**

A oxidation

B neutralisation

C displacement

D reduction

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18 **Which acid is a weak acid?**

A sulfuric acid

B hydrochloric acid

C ethanoic acid

D nitric acid

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19 **What is an ionic equation?**

A an equation showing every ion in the mixture

B an equation with no charges shown at all

C an equation for ionic bonding only

D an equation showing only the reacting ions

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20 **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

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

A sulfuric acid

B ethanoic acid

C hydrochloric acid

D nitric acid

Understand It with Pulse | Flag a mistake

22 **Will zinc displace copper from its salt solution?**

A yes

B no

C only with a catalyst

D only when heated

Understand It with Pulse | Flag a mistake

23 **What forms at the cathode during the electrolysis of molten lead bromide?**

- A chlorine
- B hydrogen
- C lead
- D bromine

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24 **Why is the precipitate washed with distilled water?**

- A to add more precipitate
- B to make the precipitate dry out fully
- C to dissolve the precipitate
- D to remove soluble impurities

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25 **What is made at the negative electrode in aluminium extraction?**

A cryolite from the mixture

B carbon dioxide gas

C aluminium

D oxygen gas from the air

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ANSWER KEY

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

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