ENGLAND GCSE CHEMISTRY AQA HIGHER · UNIT 2 · 25 QUESTIONS

Bonding, Structure, and the Properties of Matter — 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 hot air balloon is filled with hot air. Why does it rise?**

A hot air is heavier than cold air

B hot air is colder

C hot air has no mass

D hot air is less dense

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

A they are cold

B they are shiny and reflective

C they are heavy

D they have free electrons

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

A never

B no

C sometimes

D yes

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

A the paint melts in the water

B the paint freezes in the water

C the paint burns in the water

D the paint dissolves

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5 **Glass marbles are used to model atoms. What is a limitation of the model?**

A marbles are the wrong colour for atoms

B marbles cannot be counted accurately at all

C marbles are much bigger than atoms

D marbles are too small to see properly

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

A it freezes

B it boils

C it condenses

D it evaporates

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7 **What is a covalent bond?**

A a sea of electrons

B a shared pair of electrons

C an attraction between molecules

D an attraction between ions

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8 **What type of bonding is in magnesium oxide?**

A covalent

B metallic

C intermolecular forces

D ionic

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9 **An atom has 6 protons. How many electrons does the neutral atom have?**

A 6

B 8

C 5

D 7

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10 **An atom of chlorine gains 1 electron. What is the charge on the ion formed?**

- A +1
- B -2
- C 0
- D -1

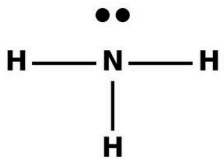
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11 **What holds the molecules together in a simple molecular substance?**

- A a sea of delocalised electrons
- B strong covalent bonds between molecules
- C strong ionic bonds between molecules
- D weak intermolecular forces

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12 **The diagram shows an ammonia molecule. How many covalent bonds does the nitrogen atom form?**



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

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13 **What is a possible risk of nanoparticles?**

- **A** they make materials much heavier
- **B** they stop materials conducting
- **C** they make surfaces very rough
- **D** they can get into the body

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14 **What is bronze made from?**

A copper and tin

B iron and carbon mixed together

C copper and zinc mixed together

D copper and aluminium mixed together

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15 **What are fullerenes?**

A flat sheets of carbon one atom thick

B long chains of carbon atoms in a row

C molecules of carbon in hollow shapes

D solid blocks of carbon atoms

Understand It with Pulse | Flag a mistake

16 **An element is in period 3 of the periodic table. How many electron shells do its atoms have?**

A 4

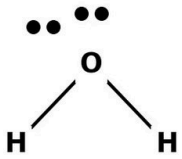
B 5

C 2

D 3

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17 **The diagram shows a water molecule. How many lone pairs of electrons does the oxygen atom have?**



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

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18 **What is the formula of methane?**

- **A** CH_2
- **B** CH_3
- **C** C_2H_4
- **D** CH_4

Understand It with Pulse | Flag a mistake

19 **What type of bonding is in sodium chloride?**

A covalent

B ionic

C metallic

D intermolecular forces

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20 **An atom has 17 protons. How many electrons does the neutral atom have?**

A 19

B 18

C 17

D 16

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21 **An atom of magnesium loses 2 electrons. What is the charge on the ion formed?**

A 0

B +2

C +1

D -2

Understand It with Pulse | Flag a mistake

22 **Why can metals be drawn into wires?**

A their layers can slide

B their atoms are far apart

C their electrons hold them rigid

D their bonds break very easily

Understand It with Pulse | Flag a mistake

23 **Which of these is a use of nanoparticles in medicine?**

- A making tablets much bigger
- B cooling the body down quickly
- C carrying drugs to cells
- D blocking X-rays in scans

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24 **Which of these has a giant covalent structure?**

- A carbon dioxide
- B sodium chloride
- C diamond
- D water

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25

Why is graphene strong?

A it is made of metal ions in a lattice

B its layers slide over each other easily

C its atoms are joined in a strong layer

D it has weak forces between its atoms

Understand It with Pulse

Flag a mistake

ANSWER KEY

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

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