ENGLAND GCSE CHEMISTRY OCR TWENTY FIRST CENTURY FOUNDATION · UNIT 2 · 25 QUESTIONS

Chemical Patterns — 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 **Lemons taste sour. What does sour taste show?**

- A a salt is present
- B an alkali is present
- C an acid is present
- D a metal is present

Understand It with Pulse | Flag a mistake

2 **A swimming pool holds water. Why does a person float in the pool?**

- A their density is close to water
- B the water pushes them down
- C they are heavier than water and sink
- D they are made of air

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3 **Glass marbles in a tray are used as a model for particles in a solid. What do the marbles show?**

A particles are far apart from each other

B particles move freely through space

C particles flow past each other easily

D particles vibrate in fixed positions

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4 **Hardcover books are stacked on a table. What force pulls them down?**

A tension

B gravity

C air resistance

D friction

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

- A they have free electrons
- B they are heavy
- C they are shiny and reflective
- D they are cold

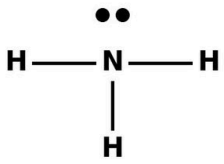
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6 **A thermometer shows a patient's temperature is 39 degrees Celsius. Is this above or below normal body temperature?**

- A below normal
- B impossible to tell
- C above normal
- D exactly normal

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



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

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8 **An element is in Group 2. How many electrons are in its outer shell?**

- **A** 1
- **B** 2
- **C** 8
- **D** 7

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9 **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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10 **Which of these is a simple covalent molecule?**

- **A** NaCl
- **B** MgO
- **C** CO_2
- **D** $CaCl_2$

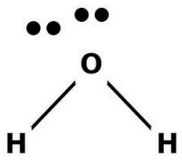
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11 **What is the electronic structure of chlorine (atomic number 17)?**

- A 2,8,6
- B 2,7,8
- C 2,8,7
- D 2,8,8

Understand It with Pulse | Flag a mistake

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



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

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13 **An atom of aluminium loses 3 electrons. What is the charge on the ion formed?**

A 0

B -3

C +3

D +2

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

A strong ionic bonds between molecules

B weak intermolecular forces

C a sea of delocalised electrons

D strong covalent bonds between molecules

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15 **Why did other scientists not accept Newlands' Law of Octaves?**

A he had left too many gaps in it

B it only worked for the first elements

C it worked for every element known

D he had arranged them by atomic number

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16 **What is the relative atomic mass of an element?**

A the average mass of its atoms

B the mass of its heaviest isotope

C the total mass of all its isotopes

D the number of protons in its atoms

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17 **An atom has atomic number 8 and mass number 16. How many electrons does it have?**

A 16

B 24

C 8

D 6

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18 **What is a period in the periodic table?**

A a block

B a row

C a column

D a group

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19 **An element, chlorine, has isotopes. 75 percent have a mass of 35 and 25 percent have a mass of 37. What is the relative atomic mass of chlorine?**

A 36.5

B 36

C 34.5

D 35.5

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20 **What did the few alpha particles that bounced back show?**

A the atom is a solid ball throughout

B there is a small dense nucleus

C electrons fill the whole atom

D the nucleus is large and empty

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21 **Which transition metal is used in construction?**

A lithium

B iron

C sodium

D calcium

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22 **An element is in period 2 of the periodic table. How many electron shells do its atoms have?**

A 4

B 3

C 1

D 2

Understand It with Pulse | Flag a mistake

23 What is the electronic structure of fluorine (atomic number 9)?

- A 2,7
- B 2,8
- C 2,6
- D 2,7,1

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24 An atom has 8 protons. How many electrons does the neutral atom have?

- A 10
- B 8
- C 7
- D 9

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

A CH_2

B C_2H_4

C CH_4

D CH_3

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

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