ENGLAND GCSE CHEMISTRY AQA HIGHER · UNIT 1 · 25 QUESTIONS

Atomic Structure and the Periodic Table — 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 **Hardcover books are dropped. What happens to their speed as they fall?**

A it increases

B it decreases

C it stays the same

D it becomes zero

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2 **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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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 stop moving

C they gain energy and move more

D they lose energy and slow down a lot

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4 **Glass marbles are shaken in a tray. What does this model?**

A particles bonding together

B particles freezing into place

C particles disappearing completely

D particles gaining energy

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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 measures temperature in degrees Celsius. What is the freezing point of water on this scale?**

- A 0
- B 32
- C 10
- D 100

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7 **Why do isotopes of the same element have the same chemical properties?**

- A they have the same number of electrons
- B they have the same mass number
- C they have the same number of neutrons in the nucleus
- D they have the same density always

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8 **Which transition metal is used as a catalyst in the Haber process?**

A copper

B nickel

C iron

D platinum

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9 **Which particle has no charge?**

A the electron

B the neutron

C the nucleus

D the proton

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10 **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 35.5
- B 36.5
- C 34.5
- D 36

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11 **An atom has 8 protons and 10 neutrons. What is its mass number?**

- A 8
- B 18
- C 10
- D 20

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12 **Which group contains the alkali metals?**

A Group 1

B Group 2

C Group 7

D Group 0

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13 **Which element has the electronic structure 2,8,1?**

A magnesium, which has two outer electrons

B sodium

C chlorine, which has seven outer electrons

D argon, which has a full outer shell

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14 How many electrons are in the outer shell of a Group 7 element?

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

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15 An atom has atomic number 11 and mass number 23. How many neutrons does it have?

- A 11
- B 12
- C 23
- D 34

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16 **What did Mendeleev predict about the gaps in his table?**

A the gaps would stay empty for ever

B new groups would appear in the gaps one day

C elements would be found to fill them

D the table would need to be remade

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17 **What was Thomson's plum pudding model?**

A a cloud of electrons with no centre

B a small nucleus with shells around it

C a tiny solid ball that cannot be divided at all

D a ball of positive charge with electrons in it

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18 **What is the mass number of an isotope with 6 protons and 8 neutrons?**

A 6

B 8

C 20

D 14

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19 **Which of these is a typical property of a metal?**

A it conducts electricity

B it is dull

C it does not conduct heat

D it is brittle

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20 **An element, magnesium, has isotopes. 79 percent have a mass of 24 and 10 percent have a mass of 25 and 11 percent have a mass of 26. What is the relative atomic mass of magnesium?**

- A 23.3
- B 24.8
- C 24.3
- D 25.3

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21 **An atom has 8 protons and 12 neutrons. What is its mass number?**

- A 22
- B 8
- C 12
- D 20

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22 How does reactivity change down Group 7?

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

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23 How many electrons are in the outer shell of a Group 1 element?

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

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24 **How did Mendeleev arrange the elements?**

- **A** by atomic mass
- **B** by atomic number in order
- **C** by the date each was found
- **D** by colour and appearance

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25 **What did Dalton think an atom was?**

- **A** a tiny solid ball
- **B** a cloud of electrons with no centre
- **C** a small nucleus with shells around it
- **D** a ball of positive charge with electrons in it

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ANSWER KEY

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

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