ENGLAND GCSE COMBINED SCIENCE AQA TRILOGY HIGHER · UNIT 21 · 25 QUESTIONS

Atomic Structure — 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 stacked on a table. What force pulls them down?**

- A friction
- B air resistance
- C tension
- D gravity

Understand It with Pulse | Flag a mistake

2 **A thermometer is placed in hot water. What happens to the liquid inside the thermometer?**

- A it evaporates
- B it expands
- C it contracts
- D it freezes

Understand It with Pulse | Flag a mistake

3 **A calculator runs on a small current. What is current measured in?**

A watts, the unit of power

B volts, the unit of voltage

C ohms, the unit of resistance

D amperes

Understand It with Pulse | Flag a mistake

4 **A wristwatch is used to time a race. What is speed calculated from?**

A distance only, not time

B time only, not distance

C mass and time together

D distance and time

Understand It with Pulse | Flag a mistake

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

- A particles vibrate in fixed positions
- B particles are far apart from each other
- C particles move freely through space
- D particles flow past each other easily

Understand It with Pulse | Flag a mistake

6 **Silver coins are made of the element silver. What is the chemical symbol for silver?**

- A Sv
- B S
- C Ag
- D Si

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7 **A sample has a half-life of 10 years. After 20 years, what fraction remains?**

- A 1/4
- B 1/2
- C 3/4
- D 1/8

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8 **A sample has an activity of 800 counts per minute. After 3 half-lives, what is its activity?**

- A 100
- B 50
- C 200
- D 400

Understand It with Pulse | Flag a mistake

9 **A radioactive sample has an activity of 1600 Bq. What is its activity after 2 half-lives?**

- A 400 Bq
- B 1600 Bq
- C 800 Bq
- D 200 Bq

Understand It with Pulse | Flag a mistake

10 **An atom has a mass number of 16 and an atomic number of 8. How many neutrons does it have?**

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

Understand It with Pulse | Flag a mistake

11 **What is contamination?**

A a type of decay that is dangerous

B radioactive material on a surface

C a type of fission that is uncontrolled

D exposure to radiation from a source

Understand It with Pulse | Flag a mistake

12 **A sample's activity halves every 5 years. After 10 years, what fraction of the original activity remains?**

A 1

B 1/4

C 1/2

D 1/8

Understand It with Pulse | Flag a mistake

13 **A sample starts with 8000 counts per minute. After one half-life, what is the count rate?**

- A 16000
- B 8000
- C 4000
- D 2000

Understand It with Pulse | Flag a mistake

14 **A radioactive sample has an activity of 400 Bq. What is its activity after 2 half-lives?**

- A 50 Bq
- B 100 Bq
- C 400 Bq
- D 200 Bq

Understand It with Pulse | Flag a mistake

15 **An atom has a mass number of 12 and an atomic number of 6. How many neutrons does it have?**

A 5

B 6

C 7

D 8

Understand It with Pulse | Flag a mistake

16 **What is nuclear fusion?**

A removing electrons

B splitting a large nucleus

C joining small nuclei

D adding electrons

Understand It with Pulse | Flag a mistake

17 **A sample's activity halves every 10 years. After 20 years, what fraction of the original activity remains?**

- A 1/4
- B 1/2
- C 1
- D 1/8

Understand It with Pulse | Flag a mistake

18 **A sample has an activity of 800 counts per minute. After 2 half-lives, what is its activity?**

- A 200
- B 400
- C 100
- D 800

Understand It with Pulse | Flag a mistake

19 **An atom has a mass number of 23 and an atomic number of 11. How many neutrons does it have?**

A 11

B 14

C 12

D 13

Understand It with Pulse | Flag a mistake

20 **Where does fusion happen naturally?**

A in the Earth

B in the Moon

C in a power station

D in the Sun

Understand It with Pulse | Flag a mistake

21 **Why is alpha used in smoke alarms?**

A it is stopped by smoke

B it is not ionising

C it has a long half-life

D it is very penetrating

Understand It with Pulse | Flag a mistake

22 **A sample has an activity of 3200 counts per minute. After 2 half-lives, what is its activity?**

A 1600

B 400

C 800

D 3200

Understand It with Pulse | Flag a mistake

23 **Where does nuclear fusion happen naturally?**

A in the Moon

B in the Sun

C in the Earth

D in power stations

Understand It with Pulse | Flag a mistake

24 **What is nuclear fission?**

A removing electrons from atoms

B joining small nuclei together

C splitting a large nucleus

D adding electrons to atoms

Understand It with Pulse | Flag a mistake

25

A sample has a half-life of 5 days. After 15 days, what fraction remains?

A 1/2

B 1/8

C 1/16

D 1/4

Understand It with Pulse

Flag a mistake

ANSWER KEY

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

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