ENGLAND GCSE COMBINED SCIENCE AQA TRILOGY FOUNDATION · 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 **Silver coins are made of the element silver. What is the chemical symbol for silver?**

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

Understand It with Pulse | Flag a mistake

2 **Hardcover books have mass. What is mass measured in?**

- A watts
- B joules
- C kilograms
- D newtons, the unit of force

Understand It with Pulse | Flag a mistake

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

A particles move freely through space

B particles flow past each other easily

C particles are far apart from each other

D particles vibrate in fixed positions

Understand It with Pulse | Flag a mistake

4 **A wristwatch measures time. What is the unit of time?**

A the day

B the second

C the minute

D the hour

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

6 **A calculator uses a battery. What energy is stored in the battery?**

- A thermal energy from heat
- B light energy from the Sun
- C chemical energy
- D kinetic energy of motion

Understand It with Pulse | Flag a mistake

7 **Which radiation is used to treat cancer?**

A alpha

B neutron

C gamma

D beta

Understand It with Pulse | Flag a mistake

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

A 1/2

B 1/16

C 1/4

D 1/8

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

- A 13
- B 14
- C 12
- D 11

Understand It with Pulse | Flag a mistake

12 **Which type of radiation is most ionising?**

- A gamma
- B neutron
- C alpha
- D beta

Understand It with Pulse | Flag a mistake

13 **How can radiation be stopped?**

A by washing the source

B by shielding

C by heating the source

D by cooling the source

Understand It with Pulse | Flag a mistake

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

A 400

B 200

C 800

D 100

Understand It with Pulse | Flag a mistake

15 **What happens to the activity of a sample over time?**

- A it falls
- B it rises
- C it falls then rises
- D it stays the same

Understand It with Pulse | Flag a mistake

16 **A radioactive sample has an activity of 800 Bq. What is its activity after 2 half-lives?**

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

Understand It with Pulse | Flag a mistake

17 **What is contamination?**

A a type of fission that is uncontrolled

B exposure to radiation from a source

C a type of decay that is dangerous

D radioactive material on a surface

Understand It with Pulse | Flag a mistake

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

A 800

B 400

C 1600

D 3200

Understand It with Pulse | Flag a mistake

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

A 8

B 5

C 6

D 7

Understand It with Pulse | Flag a mistake

20 **Which type of radiation has the longest range in air?**

A gamma

B beta

C alpha

D neutron

Understand It with Pulse | Flag a mistake

21 **What is nuclear fission?**

- A adding electrons to atoms
- B splitting a large nucleus
- C removing electrons from atoms
- D joining small nuclei together

Understand It with Pulse | Flag a mistake

22 **A sample has an activity of 1600 counts per minute. After 3 half-lives, what is its activity?**

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

25 **Which type of radiation is stopped by aluminium?**

A neutron

B gamma

C alpha

D beta

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

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