ENGLAND GCSE COMBINED SCIENCE OCR TWENTY FIRST CENTURY HIGHER · UNIT 13 · 25 QUESTIONS

Radiation and Waves — 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 thermometer measures temperature in degrees Celsius. What is the freezing point of water on this scale?**

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

Understand It with Pulse | Flag a mistake

2 **A guitar is plugged into an amplifier. What flows through the cable?**

- A light
- B water
- C sound waves travelling along it
- D electric current

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3 **A sunflower makes glucose in its leaves. Which gas does it take in for photosynthesis?**

- A hydrogen gas from the air
- B oxygen gas from the air
- C nitrogen gas from the air
- D carbon dioxide

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

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

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5 **A cup of coffee cools down. Energy is transferred to the surroundings. What type of change is this?**

- A a neutralisation
- B a reversible reaction
- C a chemical change
- D an energy transfer

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6 **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 vibrate in fixed positions
- D particles are far apart from each other

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7 **Which electromagnetic waves are used to take pictures of bones?**

A X-rays

B radio waves

C visible light

D infrared

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8 **Carbon dioxide levels rose from 300 ppm to 420 ppm. What is the increase?**

A 100 ppm

B 140 ppm

C 160 ppm

D 120 ppm

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9 **How is ultrasound used in medicine?**

A to heat the body

B to make X-ray pictures of bones

C to see inside the body

D to cut skin

Understand It with Pulse | Flag a mistake

10 **What is the wavelength of a wave?**

A the time for one wave

B the height of the wave

C the distance between two peaks

D the number of waves per second

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11 **A wave has a frequency of 4 Hz and a wavelength of 5 m. What is its speed?**

- A 9 m/s
- B 20 m/s
- C 40 m/s
- D 10 m/s

Understand It with Pulse | Flag a mistake

12 **What is total internal reflection used for?**

- A heating water
- B in optical fibres
- C making mirrors
- D making sound louder

Understand It with Pulse | Flag a mistake

13 **What do all electromagnetic waves travel at?**

A the speed of light

B the speed of sound

C different speeds

D the speed of the wave

Understand It with Pulse | Flag a mistake

14 **A wave has a frequency of 5 Hz and a wavelength of 10 m. What is the wave speed?**

A 50 m/s

B 25 m/s

C 100 m/s

D 55 m/s

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15 **A wave travels at 40 m/s with a wavelength of 10 m. What is its frequency?**

- A 4 Hz
- B 8 Hz
- C 2 Hz
- D 400 Hz

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16 **Which electromagnetic waves are used for cooking food?**

- A microwaves
- B X-rays
- C gamma rays
- D ultraviolet

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17 **Carbon dioxide levels rose from 320 ppm to 460 ppm. What is the increase?**

A 160 ppm

B 140 ppm

C 180 ppm

D 120 ppm

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18 **What does the frequency of a sound wave decide?**

A its loudness

B its speed in air

C its colour

D its pitch

Understand It with Pulse | Flag a mistake

19 **Which type of wave is a light wave?**

A seismic

B longitudinal

C transverse

D sound

Understand It with Pulse | Flag a mistake

20 **A wave has a frequency of 20 Hz and a wavelength of 4 m. What is its speed?**

A 160 m/s

B 80 m/s

C 40 m/s

D 24 m/s

Understand It with Pulse | Flag a mistake

21 **Why does light bend when it enters a different material?**

A its colour changes

B it loses energy

C it becomes sound

D its speed changes

Understand It with Pulse | Flag a mistake

22 **Which type of radiation is used to take images of bones?**

A X-rays

B ultraviolet

C microwaves

D infrared

Understand It with Pulse | Flag a mistake

23 **A wave has a frequency of 4 Hz and a wavelength of 3 m. What is the wave speed?**

- **A** 24 m/s
- **B** 6 m/s
- **C** 12 m/s
- **D** 17 m/s

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

- **A** it is stopped by smoke
- **B** it is very penetrating
- **C** it has a long half-life
- **D** it is not ionising

Understand It with Pulse | Flag a mistake

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

A beta

B gamma

C alpha

D neutron

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

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