ENGLAND GCSE PHYSICS OCR TWENTY FIRST CENTURY FOUNDATION · UNIT 1 · 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 to let Brett know so he can fix it.

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

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

Understand It with Pulse | Flag a mistake

2 **A guitar string is tightened. What happens to the pitch?**

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

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3 **A cup of coffee is hot. How is energy transferred to the air?**

- A by evaporation only, from the top
- B by condensation on the cold cup
- C by radiation only, from the surface
- D by conduction and convection

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

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

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

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

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6 **A sunflower grows taller over the summer. Where does most of the extra mass come from?**

- A minerals absorbed from the soil
- B sunlight captured by the leaves
- C carbon dioxide from the air
- D water absorbed from the soil

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7 **A wave travels at 10 m/s with a wavelength of 2 m. What is its frequency?**

- A 5 Hz
- B 20 Hz
- C 10 Hz
- D 2.5 Hz

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8 **Light travels from glass into air at a steep angle and does not leave the glass. What is this called?**

- A absorption
- B refraction, bending into the air
- C total internal reflection
- D diffraction

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9 **What does a concave lens do to parallel rays of light?**

A it spreads them apart

B it reflects them back

C it brings them together

D it stops them

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10 **What does sound need to travel through?**

A water only

B a vacuum

C a medium

D air only

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11 **Carbon dioxide levels rose from 320 ppm to 420 ppm. What is the increase?**

A 80 ppm

B 120 ppm

C 140 ppm

D 100 ppm

Understand It with Pulse | Flag a mistake

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

A 50 m/s

B 25 m/s

C 12 m/s

D 30 m/s

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13 **Which of these has the highest frequency?**

A microwaves

B gamma rays

C radio waves

D infrared

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14 **What are ultrasound waves?**

A radio waves

B light waves

C sound above human hearing

D sound waves below human hearing

Understand It with Pulse | Flag a mistake

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

- A 24 m/s
- B 80 m/s
- C 160 m/s
- D 40 m/s

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

- A radio waves
- B infrared
- C X-rays
- D visible light

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

A alpha

B gamma

C beta

D neutron

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18 **What happens when light passes from air into glass?**

A it slows and bends

B it stops

C it speeds up and bends

D it reflects back only

Understand It with Pulse | Flag a mistake

19 **What happens to the focal length if a convex lens is made more curved?**

- A it becomes zero
- B it stays the same
- C it gets longer
- D it gets shorter

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20 **What is the speed of sound in air?**

- A 150 m/s
- B 1000 m/s
- C 300000000 m/s
- D 340 m/s

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21 **Carbon dioxide levels rose from 280 ppm to 400 ppm. What is the increase?**

A 140 ppm

B 160 ppm

C 100 ppm

D 120 ppm

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

A 55 m/s

B 100 m/s

C 50 m/s

D 25 m/s

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23 **Which type of radiation is used in a TV remote control?**

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

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24 **What type of wave is sound?**

- A longitudinal
- B electromagnetic
- C transverse
- D standing

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25

A wave has a frequency of 10 Hz and a wavelength of 2 m. What is its speed?

A 20 m/s

B 10 m/s

C 12 m/s

D 40 m/s

Understand It with Pulse

Flag a mistake

ANSWER KEY

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

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