ENGLAND GCSE PHYSICS OCR TWENTY FIRST CENTURY HIGHER · UNIT 2 · 25 QUESTIONS

Sustainable Energy — 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 **A bicycle freewheels downhill. What happens to its speed?**

- A it decreases
- B it increases
- C it becomes zero
- D it stays the same

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

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

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3 **A red race car speeds up. What happens to its kinetic energy?**

- A it decreases
- B it increases
- C it stays the same
- D it becomes heat

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4 **A kite is held by a string. What force does the string exert?**

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

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5 **A cheese pizza is cooked in an oven. How is energy transferred in the oven?**

A by evaporation from the cheese

B by radiation and convection

C by condensation on the oven walls

D by conduction only, through the tray

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

A by conduction and convection

B by radiation only, from the surface

C by condensation on the cold cup

D by evaporation only, from the top

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7 **A kettle transfers 60000 J in 60 seconds. What is its power?**

- A 100 W
- B 60 W
- C 1000 W
- D 3600 W

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8 **Which of these is a renewable energy resource?**

- A natural gas
- B oil
- C wind
- D coal

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9 **A device transfers 100 J of energy in 20 seconds. What is its power?**

- A 2.5 W
- B 5 W
- C 2000 W
- D 10 W

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10 **A spring has a spring constant of 20 N/m. It is stretched by 4 cm. What is the elastic potential energy stored?**

- A 0.064 J
- B 0.016 J
- C 0.032 J
- D 0.008 J

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11 **A 2 kg object is lifted 10 m. Use g = 10 N/kg. What is the gain in gravitational potential energy?**

- A 200 J
- B 400 J
- C 20 J
- D 100 J

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12 **Which energy resource will run out first?**

- A solar power
- B a fossil fuel
- C geothermal power
- D tidal power

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13 **A machine uses 1600 J of energy and gives out 400 J of useful energy. What is its efficiency?**

- A 50%
- B 12.5%
- C 25%
- D 35%

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14 **A 4 kg object moves at 2 m/s. What is its kinetic energy?**

- A 8 J
- B 18 J
- C 4 J
- D 16 J

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15 **How can heat loss from a house be reduced?**

A by opening windows

B by removing curtains

C by insulating the loft

D by turning the heating up

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16 **What does a solar panel do?**

A it makes electricity

B it makes hot water only

C it stores electricity

D it burns fuel

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17 **Why is nuclear power not renewable?**

A it needs sunlight

B uranium will run out

C it makes carbon dioxide

D it makes no waste

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18 **What is an advantage of solar power?**

A it needs no panels

B no carbon dioxide is made

C it works in any weather at all

D it works at night

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19 **A river flows to the sea. What is this part of?**

- A the carbon cycle
- B the water cycle
- C the nitrogen cycle
- D the rock cycle

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20 **Why do fossil fuels cause climate change?**

- A they run out slowly
- B they are hard to find underground
- C they are expensive
- D burning makes carbon dioxide

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21 **A force of 10 N pushes a box 4 m along the ground. How much work is done?**

- A 80 J
- B 20 J
- C 70 J
- D 40 J

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22 **A machine wastes 30 J as heat for every 70 J of useful energy. What is its efficiency?**

- A 70%
- B 43%
- C 30%
- D 100%

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23 **What is the unit of power?**

- **A** the watt
- **B** the volt, which is potential difference
- **C** the joule, which is energy
- **D** the newton, which is force

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24 **When a ball falls, what happens to its energy?**

- **A** energy disappears
- **B** energy is made
- **C** gravitational potential energy becomes kinetic energy
- **D** kinetic energy becomes gravitational potential energy

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25 **Which of these is a non-renewable energy resource?**

A coal

B tidal

C wind

D solar

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ANSWER KEY

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

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