ENGLAND GCSE COMBINED SCIENCE OCR TWENTY FIRST CENTURY FOUNDATION · UNIT 14 · 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 so it can be fixed.

1 **A river provides drinking water. Why must the water be treated before drinking?**

- A to heat it up for use
- B to remove harmful substances
- C to make it taste better for drinking
- D to add minerals for health

Understand It with Pulse | Flag a mistake

2 **A kite rises higher. What happens to the wind speed usually?**

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

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

A water absorbed from the soil

B carbon dioxide from the air

C minerals absorbed from the soil

D sunlight captured by the leaves

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4 **A bicycle rolls down a hill. What happens to its gravitational potential energy?**

A it stays the same

B it decreases as kinetic energy increases

C it increases

D it becomes chemical energy stored in the bike

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

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

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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 **In a coal power station, what turns the turbine?**

A coal directly

B cold water

C steam

D wind

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8 **Why is hydroelectric power reliable?**

A it needs no rain at all

B stored water can be released

C it works anywhere on land at all

D it makes no noise at all

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9 **A Sankey display for a light bulb shows 100 J in, 10 J of light out and 90 J of heat out. What is the useful energy?**

- A 100 J of electricity
- B 110 J in total
- C 90 J of heat
- D 10 J of light

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10 **A spring has a spring constant of 40 N/m. It is stretched by 4 cm. What is the elastic potential energy stored?**

- A 0.128 J
- B 0.016 J
- C 0.032 J
- D 0.064 J

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

A the volt

B the newton

C the joule

D the watt

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12 **A machine uses 160 J of energy and gives out 40 J of useful energy. What is its efficiency?**

A 25%

B 50%

C 12.5%

D 35%

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

- A 100 J
- B 200 J
- C 50 J
- D 130 J

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14 **A cheese pizza contains cheese made from milk. What is milk rich in?**

- A fibre
- B calcium
- C iron
- D vitamin C

Understand It with Pulse | Flag a mistake

15 **A 2 kg object moves at 5 m/s. What is its kinetic energy?**

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

Understand It with Pulse | Flag a mistake

16 **Which energy resource uses heat from underground rocks?**

- A geothermal
- B solar
- C hydroelectric
- D wind

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17 **A 2 kg object is lifted 3 m. Use g = 10 N/kg. What is the gain in gravitational potential energy?**

- A 60 J
- B 30 J
- C 120 J
- D 6 J

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18 **What happens to the carbon dioxide released by burning biofuel?**

- A new plants absorb it
- B it falls to the ground
- C it stays in the air for ever
- D it turns into oxygen

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

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

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20 **What does it mean if an energy resource is renewable?**

- A it will not run out
- B it is cheap to build
- C it works in any weather
- D it makes no pollution at all

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21 **A device transfers 1000 J of energy in 10 seconds. What is its power?**

- A 10000 W
- B 50 W
- C 100 W
- D 200 W

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22 **What is a disadvantage of nuclear power?**

- A it makes carbon dioxide
- B it makes radioactive waste
- C it stops working at night
- D it needs a river

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

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

Understand It with Pulse | Flag a mistake

24 **In a Sankey display, what does a wider arrow show?**

- A energy transferred faster
- B more energy transferred
- C energy transferred in a straight line
- D energy transferred for longer

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25 **A spring has a spring constant of 100 N/m. It is stretched by 4 cm. What is the elastic potential energy stored?**

A 0.04 J

B 0.32 J

C 0.16 J

D 0.08 J

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

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