ENGLAND GCSE COMBINED SCIENCE OCR GATEWAY FOUNDATION · UNIT 17 · 25 QUESTIONS

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 bicycle freewheels downhill. What happens to its speed?**

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

Understand It with Pulse | Flag a mistake

2 **A basketball bounces. What type of energy is stored when the ball squashes?**

- A elastic potential
- B gravitational potential
- C thermal
- D kinetic

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

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

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

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

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5 **A cheese pizza provides energy. Which nutrient provides most energy?**

A fibre

B vitamins

C protein

D fat

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6 **A rocket in space has no air around it. What happens to air resistance?**

A it increases

B there is none

C it becomes gravity

D it stays the same

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7 **A 10 kg object moves at 10 m/s. What is its kinetic energy?**

- A 500 J
- B 1000 J
- C 250 J
- D 510 J

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

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

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

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

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10 **A spring has a spring constant of 40 N/m. It is stretched by 5 cm. What is the elastic potential energy stored?**

- **A** 0.025 J
- **B** 0.1 J
- **C** 0.05 J
- **D** 0.2 J

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

A by insulating the loft

B by removing curtains

C by turning the heating up

D by opening windows

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12 **Energy transfers can be shown with arrows whose widths show the amount of energy. What is this way of showing transfers called?**

A a Sankey diagram

B a circuit diagram

C a ray diagram

D a force diagram

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13 **A machine uses 1000 J of energy and gives out 200 J of useful energy. What is its efficiency?**

- A 40%
- B 30%
- C 20%
- D 10%

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14 **A device transfers 200 J of energy in 25 seconds. What is its power?**

- A 8 W
- B 4 W
- C 16 W
- D 5000 W

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15 **Why do some people object to wind turbines?**

A they use up the wind

B they spoil the view

C they only work at night

D they produce carbon dioxide

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

A 3600 W

B 60 W

C 100 W

D 1000 W

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17 **A force of 20 N pushes a box 4 m along the ground. How much work is done?**

- A 110 J
- B 40 J
- C 160 J
- D 80 J

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18 **A 10 kg object moves at 5 m/s. What is its kinetic energy?**

- A 135 J
- B 62.5 J
- C 250 J
- D 125 J

Understand It with Pulse | Flag a mistake

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

A 30 J

B 300 J

C 600 J

D 150 J

Understand It with Pulse | Flag a mistake

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

A kinetic energy becomes gravitational potential energy

B energy is made

C gravitational potential energy becomes kinetic energy

D energy disappears

Understand It with Pulse | Flag a mistake

21 **A spring has a spring constant of 40 N/m. It is stretched by 2 cm. What is the elastic potential energy stored?**

- A 0.032 J
- B 0.008 J
- C 0.016 J
- D 0.004 J

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22 **What is the unit of energy?**

- A the watt
- B the newton
- C the joule
- D the volt

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23 **A Sankey display shows most of the energy from a car engine going to heat. What does this mean?**

- **A** most of it is wasted
- **B** the car is very efficient
- **C** the engine makes energy
- **D** the car uses no fuel

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

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

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25 **A device transfers 1000 J of energy in 50 seconds. What is its power?**

A 50000 W

B 20 W

C 10 W

D 40 W

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ANSWER KEY

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

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