ENGLAND GCSE PHYSICS OCR GATEWAY FOUNDATION · UNIT 7 · 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 to let Brett know so he can fix it.

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

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

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**2** **A cup of coffee is left for an hour. What happens to its temperature?**

- A it falls to zero degrees
- B it rises above room temperature
- C it falls to room temperature
- D it stays the same all day

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3 **A bicycle is ridden uphill. Which energy store increases?**

- A thermal energy from friction
- B kinetic energy of motion
- C elastic potential energy
- D gravitational potential

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4 **A rocket launches straight up. Which force acts downwards on the rocket?**

- A thrust
- B gravity
- C air resistance
- D lift

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

- A fibre
- B protein
- C fat
- D vitamins

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6 **A basketball is dropped. What energy store increases as it falls?**

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

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7 **A 4 kg object moves at 5 m/s. What is its kinetic energy?**

- A 60 J
- B 25 J
- C 100 J
- D 50 J

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

- A 0.32 J
- B 0.16 J
- C 0.08 J
- D 0.04 J

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9 **A force of 25 N pushes a box 4 m along the ground. How much work is done?**

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

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

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

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11 **A device transfers 500 J of energy in 10 seconds. What is its power?**

- A 5000 W
- B 50 W
- C 25 W
- D 100 W

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12 **A machine uses 800 J of energy and gives out 400 J of useful energy. What is its efficiency?**

- A 50%
- B 25%
- C 100%
- D 60%

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13 **A 10 kg object is lifted 4 m. Use g = 10 N/kg. What is the gain in gravitational potential energy?**

- A 40 J
- B 200 J
- C 400 J
- D 800 J

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

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

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15 **Which energy resource is reliable in any weather and produces no carbon dioxide while running?**

A nuclear power

B wind power, which needs wind

C solar power, which needs sun

D wave power, which needs waves

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16 **What is nuclear power fuelled by?**

A oil

B coal

C hydrogen

D uranium

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

- A 500 J
- B 125 J
- C 250 J
- D 260 J

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18 **A spring has a spring constant of 100 N/m. It is stretched by 10 cm. What is the elastic potential energy stored?**

- A 0.25 J
- B 0.5 J
- C 1 J
- D 2 J

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19 **A force of 25 N pushes a box 2 m along the ground. How much work is done?**

- A 100 J
- B 80 J
- C 25 J
- D 50 J

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20 **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 force diagram
- C a ray diagram
- D a circuit diagram

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21 **A device transfers 200 J of energy in 50 seconds. What is its power?**

A 4 W

B 8 W

C 2 W

D 10000 W

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

A 35%

B 25%

C 12.5%

D 50%

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**23** **A 4 kg object is lifted 4 m. Use g = 10 N/kg. What is the gain in gravitational potential energy?**

- **A** 160 J
- **B** 16 J
- **C** 80 J
- **D** 320 J

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**24** **A device has a power of 200 W. How much energy does it transfer in 10 seconds?**

- **A** 200 J
- **B** 2000 J
- **C** 20000 J
- **D** 20 J

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25

## Which energy resource will run out first?

A tidal power

B a fossil fuel

C solar power

D geothermal power

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Flag a mistake

# ANSWER KEY

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

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