ENGLAND GCSE COMBINED SCIENCE OCR GATEWAY HIGHER · 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 rolls down a hill. What happens to its gravitational potential energy?**

- A it becomes chemical energy stored in the bike
- B it stays the same
- C it decreases as kinetic energy increases
- D it increases

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

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

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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 conduction and convection

D by radiation only, from the surface

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

A it stays the same

B it increases

C it becomes gravity

D there is none

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

A by radiation and convection

B by evaporation from the cheese

C by conduction only, through the tray

D by condensation on the oven walls

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

A kinetic

B thermal

C elastic potential

D gravitational potential

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7 **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** 6 J
- **C** 120 J
- **D** 30 J

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

- **A** 8 J
- **B** 14 J
- **C** 4 J
- **D** 2 J

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9 **A motor lifts a load and does 500 J of work in 10 seconds. What is the power?**

- A 50 W
- B 5 W
- C 5000 W
- D 500 W

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

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

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

- A hydrogen
- B coal
- C uranium
- D oil

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

- A by insulating the loft
- B by turning the heating up
- C by removing curtains
- D by opening windows

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

- A 0.1 J
- B 0.05 J
- C 0.4 J
- D 0.2 J

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14 **A machine uses 300 J of energy and gives out 60 J of useful energy. What is its efficiency?**

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

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

A solar power

B geothermal power

C a fossil fuel

D tidal power

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16 **A force of 25 N pushes a box 5 m along the ground. How much work is done?**

A 155 J

B 125 J

C 62 J

D 250 J

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

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

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

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

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19 **A 5 kg object is lifted 4 m. Use g = 10 N/kg. What is the gain in gravitational potential energy?**

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

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20 **A 2 kg object moves at 3 m/s. What is its kinetic energy?**

- A 4.5 J
- B 18 J
- C 19 J
- D 9 J

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21 **Two motors do the same work. One takes half the time of the other. How does its power compare?**

A the same

B half as much

C four times as much

D twice as much

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22 **Which of these is an energy store?**

A a battery being charged

B a hot drink

C a stretched spring

D a moving car

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23 **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 0.004 J
- C 0.016 J
- D 0.008 J

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24 **A machine uses 400 J of energy and gives out 80 J of useful energy. What is its efficiency?**

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

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25 **What is a disadvantage of biofuels?**

A growing the crops takes land

B they cannot be burned

C they release no carbon dioxide at all

D they never run out

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ANSWER KEY

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

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