ENGLAND GCSE PHYSICS OCR GATEWAY HIGHER · 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 rocket in space has no air around it. What happens to air resistance?**

- A there is none
- B it increases
- C it stays the same
- D it becomes gravity

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2 **A basketball is thrown up. What happens to its speed as it rises?**

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

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

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

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

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

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

- A by radiation only, from the surface
- B by condensation on the cold cup
- C by evaporation only, from the top
- D by conduction and convection

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

- A by condensation on the oven walls
- B by conduction only, through the tray
- C by radiation and convection
- D by evaporation from the cheese

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

A tidal power

B a fossil fuel

C geothermal power

D solar power

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

A 62.5 J

B 125 J

C 250 J

D 135 J

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

- A a ray diagram
- B a force diagram
- C a Sankey diagram
- D a circuit diagram

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10 **A device transfers 200 J of energy in 10 seconds. What is its power?**

- A 10 W
- B 40 W
- C 2000 W
- D 20 W

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

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

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12 **A spring has a spring constant of 100 N/m. It is stretched by 2 cm. What is the elastic potential energy stored?**

- A 0.04 J
- B 0.01 J
- C 0.08 J
- D 0.02 J

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13 **A 5 kg object is lifted 3 m. Use g = 10 N/kg. What is the gain in gravitational potential energy?**

- A 15 J
- B 75 J
- C 300 J
- D 150 J

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14 **A force of 50 N pushes a box 5 m along the ground. How much work is done?**

- A 125 J
- B 280 J
- C 250 J
- D 500 J

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

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

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

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

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

A it is cheap to build

B it will not run out

C it works in any weather

D it makes no pollution at all

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

A by turning the heating up

B by insulating the loft

C by removing curtains

D by opening windows

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19 **A 10 kg object moves at 4 m/s. What is its kinetic energy?**

- A 40 J
- B 90 J
- C 160 J
- D 80 J

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20 **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 car uses no fuel
- D the engine makes energy

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21 **A device transfers 200 J of energy in 20 seconds. What is its power?**

- A 5 W
- B 4000 W
- C 10 W
- D 20 W

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

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

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23 **A spring has a spring constant of 50 N/m. It is stretched by 5 cm. What is the elastic potential energy stored?**

- A 0.125 J
- B 0.0313 J
- C 0.0625 J
- D 0.25 J

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

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

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25

A force of 20 N pushes a box 2 m along the ground. How much work is done?

A 80 J

B 70 J

C 40 J

D 20 J

Understand It with Pulse

Flag a mistake

ANSWER KEY

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

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