ENGLAND GCSE PHYSICS AQA HIGHER · UNIT 1 · 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 stays the same
- B it decreases
- C it increases
- D it becomes heat

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

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

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

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

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

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

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

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

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

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

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

A a hot drink

B a moving car

C a stretched spring

D a battery being charged

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8 **A device transfers 100 J of energy in 10 seconds. What is its power?**

A 10 W

B 20 W

C 5 W

D 1000 W

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9 **A force of 25 N pushes a box 10 m along the ground. How much work is done?**

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

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

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

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11 **A 5 kg block has a specific heat capacity of 400 J/kg degrees Celsius. Its temperature rises by 10 degrees Celsius. How much energy is needed?**

- A 20500 J
- B 20000 J
- C 10000 J
- D 40000 J

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

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

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

A the watt

B the joule

C the volt

D the newton

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

A 1 J

B 0.25 J

C 0.5 J

D 2 J

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

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

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

- A geothermal power
- B solar power
- C tidal power
- D a fossil fuel

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

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

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

- A 40 J
- B 80 J
- C 4 J
- D 20 J

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

A oil

B wind

C natural gas

D coal

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20 **A force of 50 N pushes a box 4 m along the ground. How much work is done?**

A 100 J

B 230 J

C 400 J

D 200 J

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21 **A 2 kg object moves at 10 m/s. What is its kinetic energy?**

- A 200 J
- B 100 J
- C 110 J
- D 50 J

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22 **A 5 kg block has a specific heat capacity of 100 J/kg degrees Celsius. Its temperature rises by 10 degrees Celsius. How much energy is needed?**

- A 10000 J
- B 5500 J
- C 5000 J
- D 2500 J

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

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

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

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

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

A 0.016 J

B 0.032 J

C 0.128 J

D 0.064 J

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ANSWER KEY

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

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