ENGLAND GCSE PHYSICS OCR TWENTY FIRST CENTURY FOUNDATION · UNIT 2 · 25 QUESTIONS

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

Understand It with Pulse | Flag a mistake

2 **A sunflower makes glucose in its leaves. Which gas does it take in for photosynthesis?**

- A nitrogen gas from the air
- B carbon dioxide
- C oxygen gas from the air
- D hydrogen gas from the air

Understand It with Pulse | Flag a mistake

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

A it becomes chemical energy stored in the bike

B it increases

C it stays the same

D it decreases as kinetic energy increases

Understand It with Pulse | Flag a mistake

4 **A river flows to the sea. What is this part of?**

A the rock cycle

B the water cycle

C the carbon cycle

D the nitrogen cycle

Understand It with Pulse | Flag a mistake

5 **A kite is held by a string. What force does the string exert?**

- A gravity
- B tension
- C air resistance
- D friction

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

7 **Why does a Sankey display for a real machine always have an arrow for wasted energy?**

A no machine is perfect

B arrows must always add to zero

C machines always make extra energy

D wasted energy is the useful output

Understand It with Pulse | Flag a mistake

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

A it works in any weather

B it makes no pollution at all

C it is cheap to build

D it will not run out

Understand It with Pulse | Flag a mistake

9 **A device transfers 1000 J of energy in 20 seconds. What is its power?**

- A 50 W
- B 25 W
- C 100 W
- D 20000 W

Understand It with Pulse | Flag a mistake

10 **A 5 kg object is lifted 2 m. Use g = 10 N/kg. What is the gain in gravitational potential energy?**

- A 200 J
- B 50 J
- C 10 J
- D 100 J

Understand It with Pulse | Flag a mistake

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

A by condensation on the oven walls

B by evaporation from the cheese

C by radiation and convection

D by conduction only, through the tray

Understand It with Pulse | Flag a mistake

12 **What is a disadvantage of nuclear power?**

A it stops working at night

B it makes carbon dioxide

C it makes radioactive waste

D it needs a river

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

15 **Which of these is a use of geothermal energy?**

A powering cars

B lighting homes

C making petrol for cars

D heating buildings

Understand It with Pulse | Flag a mistake

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

A 25 J

B 50 J

C 100 J

D 80 J

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

19 **Why is hydroelectric power reliable?**

A stored water can be released

B it works anywhere on land at all

C it needs no rain at all

D it makes no noise at all

Understand It with Pulse | Flag a mistake

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

A 50 W

B 500 W

C 5 W

D 5000 W

Understand It with Pulse | Flag a mistake

21 **What is the main problem with burning coal?**

A carbon dioxide

B it runs out quickly

C it is hard to dig up

D it is expensive

Understand It with Pulse | Flag a mistake

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

A 43%

B 30%

C 70%

D 100%

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

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

A 400 J

B 200 J

C 20 J

D 100 J

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

© 2026 Brett Robbins. All Rights Reserved.