ENGLAND GCSE PHYSICS OCR TWENTY FIRST CENTURY FOUNDATION · UNIT 6 · 25 QUESTIONS

Matter - Models and Explanations — 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 swimming pool is heated. What happens to the water particles?**

- **A** they disappear
- **B** they get smaller
- **C** they stop moving
- **D** they move faster

Understand It with Pulse | Flag a mistake

2 **A ladder is climbed. Which energy store increases?**

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

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3 **A thermometer measures temperature in degrees Celsius. What is the freezing point of water on this scale?**

- A 10
- B 100
- C 0
- D 32

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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 condensation on the cold cup
- C by radiation only, from the surface
- D by evaporation only, from the top

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5 **An ice cream cone melts in the Sun. What is happening to the particles in the ice cream?**

- A they gain energy and move more
- B they get smaller
- C they lose energy and slow down a lot
- D they stop moving

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6 **A hot air balloon rises because the air inside it is less dense than the air outside. What happens to the density of air when it is heated?**

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

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7 **What is the Big Bang theory?**

- A the Universe has always been the same
- B it began hot, dense, expanding
- C the Universe is shrinking
- D the Earth exploded

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8 **Why does a more massive star have a shorter life?**

A it has less fuel than a small star

B it is colder

C it burns fuel faster

D it is further away

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9 **Why are the results of the specific heat capacity practical not exact?**

A the thermometer adds energy

B energy escapes to the room

C the heater makes extra energy

D the block gains mass as it heats

Understand It with Pulse | Flag a mistake

10 **What starts when a protostar gets hot and dense enough?**

A burning like a fire

B nuclear fission

C cooling down

D nuclear fusion

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11 **Why does light from a receding galaxy arrive red-shifted?**

A the waves squash

B the waves stretch

C the light slows down

D the light speeds up

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12 **How long does a geostationary satellite take to orbit the Earth?**

- A 1 hour
- B 1 month, about 30 days
- C 24 hours
- D 1 year

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13 **How far is one astronomical unit?**

- A the distance to the Moon
- B the size of the Solar System
- C Earth to Sun distance
- D the distance to the nearest star

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14 **An object has a mass of 20 g and a volume of 10 cubic centimetres. What is its density?**

- A 1 g/cm³
- B 4 g/cm³
- C 2 g/cm³
- D 30 g/cm³

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15 **A material has a density of 2 g per cubic centimetre. What is the mass of 20 cubic centimetres of it?**

- A 80 g
- B 20 g
- C 40 g
- D 22 g

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16 **What happens to gas pressure when the volume falls at fixed temperature?**

A it stays the same

B it increases

C it decreases

D it becomes zero

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17 **A spring is stretched and then released. What happens to the stored elastic potential energy?**

A it becomes kinetic energy

B it becomes heat only

C it disappears

D it stays in the spring for ever

Understand It with Pulse | Flag a mistake

18 **A block has a mass of 500 g and a volume of 200 cubic centimetres. What is its density?**

- **A** 2.5 g/cm³
- **B** 1.25 g/cm³
- **C** 5 g/cm³
- **D** 5.5 g/cm³

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19 **A 5 kg mass of ice melts. The specific latent heat of fusion of ice is 100 J/kg. How much energy is needed?**

- **A** 250 J
- **B** 1000 J
- **C** 500 J
- **D** 600 J

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20 **What holds the planets in orbit around the Sun?**

- A friction
- B magnetism
- C air pressure
- D gravity

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21 **In which state can particles flow but stay close together?**

- A gas
- B solid
- C liquid
- D plasma

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22 **How much energy is needed to heat 1 kg of a substance with a specific heat capacity of 900 J per kg per degree Celsius by 20 degrees Celsius?**

- A 900 J
- B 18000 J
- C 36000 J
- D 9000 J

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23 **A gas in a sealed container is heated. What happens to the pressure?**

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

Understand It with Pulse | Flag a mistake

24 **How much energy is needed to change 5 kg of a substance from solid to liquid, if the specific latent heat is 334000 J per kg?**

- A 1670000 J
- B 835000 J
- C 334005 J
- D 3340000 J

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25 **Why does a change of state need energy even though the temperature stays the same?**

- A the temperature is wrong
- B the particles need to slow down
- C energy is destroyed in the change
- D energy is needed to break bonds

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ANSWER KEY

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

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