ENGLAND GCSE PHYSICS EDEXCEL HIGHER · UNIT 14 · 25 QUESTIONS

Particle Model — 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 **An ice cream cone melts. What is the melting point of the ice cream?**

- A around minus 20 degrees Celsius
- B around 37 degrees Celsius
- C around 0 degrees Celsius
- D around 100 degrees Celsius

Understand It with Pulse | Flag a mistake

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

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

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

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

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4 **A swimming pool holds water with a density of 1000 kg per cubic metre. What is the mass of 2 cubic metres of the water?**

- A 2000 kg
- B 1000 kg
- C 4000 kg
- D 500 kg

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5 **A hot air balloon is filled with hot air. Why does it rise?**

- A hot air is heavier than cold air
- B hot air has no mass
- C hot air is colder
- D hot air is less dense

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6 **Glass marbles are shaken in a tray. What does this model?**

- A particles disappearing completely
- B particles freezing into place
- C particles bonding together
- D particles gaining energy

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7 **What happens to the particles when a solid melts?**

A they get smaller

B they disappear

C they move more freely

D they stop moving altogether

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8 **How much energy is needed to heat 5 kg of a substance with a specific heat capacity of 900 J per kg per degree Celsius by 5 degrees Celsius?**

A 4500 J

B 22500 J

C 45000 J

D 11250 J

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9 **A gas is compressed into half its volume at constant temperature. What happens to the pressure?**

- A it falls to zero
- B it doubles
- C it stays the same
- D it halves

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10 **In the density practical, how is the volume of an irregular object found?**

- A by heating it and timing it
- B by measuring its length only
- C by weighing it twice
- D by the rise in water level

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11 **A material has a density of 8 g per cubic centimetre. What is the mass of 20 cubic centimetres of it?**

- A 28 g
- B 80 g
- C 320 g
- D 160 g

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12 **How much energy is needed to change 2 kg of a substance from liquid to gas, if the specific latent heat is 2260000 J per kg?**

- A 4520000 J
- B 2260002 J
- C 9040000 J
- D 2260000 J

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13 **A 10 kg mass of ice melts. The specific latent heat of fusion of ice is 200 J/kg. How much energy is needed?**

- A 1000 J
- B 2100 J
- C 2000 J
- D 4000 J

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14 **A block has a mass of 500 g and a volume of 100 cubic centimetres. What is its density?**

- A 10 g/cm³
- B 5 g/cm³
- C 2.5 g/cm³
- D 8 g/cm³

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15 **An object has a mass of 50 g and a volume of 25 cubic centimetres. What is its density?**

- A 2 g/cm³
- B 75 g/cm³
- C 4 g/cm³
- D 1 g/cm³

Understand It with Pulse | Flag a mistake

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

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

Understand It with Pulse | Flag a mistake

17 **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 36000 J
- B 18000 J
- C 9000 J
- D 900 J

Understand It with Pulse | Flag a mistake

18 **Why does heating a gas in a sealed container raise the pressure?**

- A the container gets smaller
- B they hit the walls harder
- C the particles stop moving
- D the particles get bigger

Understand It with Pulse | Flag a mistake

19 **A material has a density of 4 g per cubic centimetre. What is the mass of 10 cubic centimetres of it?**

- A 80 g
- B 14 g
- C 40 g
- D 20 g

Understand It with Pulse | Flag a mistake

20 **How much energy is needed to change 1 kg of a substance from liquid to gas, if the specific latent heat is 2260000 J per kg?**

- A 1130000 J
- B 4520000 J
- C 2260000 J
- D 2260001 J

Understand It with Pulse | Flag a mistake

21 **A 5 kg mass of ice melts. The specific latent heat of fusion of ice is 400 J/kg. How much energy is needed?**

- A 4000 J
- B 2000 J
- C 2100 J
- D 1000 J

Understand It with Pulse | Flag a mistake

22 **An object has a mass of 50 g and a volume of 20 cubic centimetres. What is its density?**

- A 70 g/cm³
- B 5 g/cm³
- C 2.5 g/cm³
- D 1.25 g/cm³

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23 **What is internal energy?**

- A the energy of the container and the room
- B the energy of one particle only
- C the heat lost to the room
- D the total energy of the particles

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24 **How much energy is needed to heat 2 kg of a substance with a specific heat capacity of 900 J per kg per degree Celsius by 5 degrees Celsius?**

- A 4500 J
- B 1800 J
- C 18000 J
- D 9000 J

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25

What happens to the pressure of a gas if its temperature falls and its volume stays the same?

A it rises

B it doubles

C it stays the same

D it falls

Understand It with Pulse

Flag a mistake

ANSWER KEY

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

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