ENGLAND GCSE COMBINED SCIENCE AQA TRILOGY HIGHER · UNIT 20 · 25 QUESTIONS

Particle Model of Matter — 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 so it can be fixed.

1 **An ice cream cone melts. What is the melting point of the ice cream?**

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

Understand It with Pulse | Flag a mistake

2 **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 1000 kg
- B 4000 kg
- C 500 kg
- D 2000 kg

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

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

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4 **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 conduction and convection
- D by evaporation only, from the top

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5 **A thermometer shows a patient's temperature is 39 degrees Celsius. Is this above or below normal body temperature?**

- A below normal
- B above normal
- C exactly normal
- D impossible to tell

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6 **Glass marbles are used to model atoms. What is a limitation of the model?**

- A marbles are much bigger than atoms
- B marbles cannot be counted accurately at all
- C marbles are too small to see properly
- D marbles are the wrong colour for atoms

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7 **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

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8 **How much energy is needed to heat 1 kg of a substance with a specific heat capacity of 4200 J per kg per degree Celsius by 10 degrees Celsius?**

- A 21000 J
- B 42000 J
- C 84000 J
- D 4200 J

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9 **An object has a mass of 200 g and a volume of 50 cubic centimetres. What is its density?**

- A 250 g/cm³
- B 4 g/cm³
- C 8 g/cm³
- D 2 g/cm³

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10 **A material has a density of 5 g per cubic centimetre. What is the mass of 20 cubic centimetres of it?**

- A 100 g
- B 25 g
- C 200 g
- D 50 g

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11 **How much energy is needed to change 3 kg of a substance from solid to liquid, if the specific latent heat is 334000 J per kg?**

- A 334003 J
- B 1002000 J
- C 2004000 J
- D 501000 J

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12 **How much energy is needed to heat 5 kg of a substance with a specific heat capacity of 4200 J per kg per degree Celsius by 5 degrees Celsius?**

- A 21000 J
- B 52500 J
- C 105000 J
- D 210000 J

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13 **An object has a mass of 40 g and a volume of 10 cubic centimetres. What is its density?**

- A 4 g/cm³
- B 8 g/cm³
- C 2 g/cm³
- D 50 g/cm³

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

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

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

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

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16 **How much energy is needed to change 1 kg of a substance from solid to liquid, if the specific latent heat is 334000 J per kg?**

- A 334001 J
- B 668000 J
- C 334000 J
- D 167000 J

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17 **How much energy is needed to heat 1 kg of a substance with a specific heat capacity of 2100 J per kg per degree Celsius by 5 degrees Celsius?**

- A 21000 J
- B 10500 J
- C 2100 J
- D 5250 J

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18 **A material has a density of 2 g per cubic centimetre. What is the mass of 25 cubic centimetres of it?**

- A 25 g
- B 100 g
- C 27 g
- D 50 g

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19 **How much energy is needed to heat 2 kg of a substance with a specific heat capacity of 4200 J per kg per degree Celsius by 10 degrees Celsius?**

- A 84000 J
- B 8400 J
- C 168000 J
- D 42000 J

Understand It with Pulse | Flag a mistake

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

- A 0.4 g/cm³
- B 0.8 g/cm³
- C 70 g/cm³
- D 0.2 g/cm³

Understand It with Pulse | Flag a mistake

21 **In which state do particles vibrate in fixed positions?**

A plasma

B solid

C liquid

D gas

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22 **A material has a density of 5 g per cubic centimetre. What is the mass of 25 cubic centimetres of it?**

A 30 g

B 62.5 g

C 250 g

D 125 g

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

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

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24 **How much energy is needed to change 2 kg of a substance from solid to liquid, if the specific latent heat is 334000 J per kg?**

- A 334000 J
- B 668000 J
- C 1336000 J
- D 334002 J

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25 **How much energy is needed to heat 2 kg of a substance with a specific heat capacity of 4200 J per kg per degree Celsius by 20 degrees Celsius?**

A 8400 J

B 168000 J

C 336000 J

D 84000 J

Understand It with Pulse | Flag a mistake

ANSWER KEY

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

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