ENGLAND GCSE PHYSICS OCR GATEWAY FOUNDATION · UNIT 1 · 25 QUESTIONS

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 to let Brett know so he can fix it.

1 **Glass marbles in a tray are used as a model for particles in a solid. What do the marbles show?**

- A particles vibrate in fixed positions
- B particles flow past each other easily
- C particles move freely through space
- D particles are far apart from each other

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2 **A swimming pool is heated. What happens to the water particles?**

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

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3 **A cup of coffee is left for an hour. What happens to its temperature?**

A it rises above room temperature

B it stays the same all day

C it falls to room temperature

D it falls to zero degrees

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

A around 0 degrees Celsius

B around 100 degrees Celsius

C around minus 20 degrees Celsius

D around 37 degrees Celsius

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

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

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

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

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7 **How much energy is needed to heat 5 kg of a substance with a specific heat capacity of 2100 J per kg per degree Celsius by 10 degrees Celsius?**

- A 10500 J
- B 105000 J
- C 52500 J
- D 210000 J

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

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

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9 **A 4 kg mass of ice melts. The specific latent heat of fusion of ice is 400 J/kg. How much energy is needed?**

- A 3200 J
- B 1600 J
- C 1700 J
- D 800 J

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10 **A 10 kg block has a specific heat capacity of 500 J/kg degrees Celsius. Its temperature rises by 20 degrees Celsius. How much energy is needed?**

- A 50000 J
- B 200000 J
- C 100000 J
- D 100500 J

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11 **An object has a mass of 20 g and a volume of 25 cubic centimetres. What is its density?**

- A 1.6 g/cm³
- B 45 g/cm³
- C 0.4 g/cm³
- D 0.8 g/cm³

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12 **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 835000 J
- B 1670000 J
- C 334005 J
- D 3340000 J

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13 **Which change of state releases energy to the surroundings?**

A condensing

B boiling, which takes energy in

C subliming, which takes energy in

D melting, which takes energy in

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14 **A material has a density of 8 g per cubic centimetre. What is the mass of 10 cubic centimetres of it?**

A 18 g

B 40 g

C 160 g

D 80 g

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

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

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

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

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

- A 0.4 g/cm³
- B 0.2 g/cm³
- C 3.4 g/cm³
- D 0.8 g/cm³

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18 **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 5250 J
- B 10500 J
- C 2100 J
- D 21000 J

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19 **In the specific heat capacity practical, what is measured with a joulemeter?**

A the energy supplied

B the mass of the block

C the temperature of the room

D the time taken to melt

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20 **A 4 kg mass of ice melts. The specific latent heat of fusion of ice is 100 J/kg. How much energy is needed?**

A 400 J

B 200 J

C 500 J

D 800 J

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21 **A 2 kg block has a specific heat capacity of 500 J/kg degrees Celsius. Its temperature rises by 20 degrees Celsius. How much energy is needed?**

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

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

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

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23 **An object has a mass of 40 g and a volume of 20 cubic centimetres. What is its density?**

- **A** 1 g/cm³
- **B** 2 g/cm³
- **C** 60 g/cm³
- **D** 4 g/cm³

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24 **How much energy is needed to change 5 kg of a substance from liquid to gas, if the specific latent heat is 2260000 J per kg?**

- **A** 5650000 J
- **B** 22600000 J
- **C** 11300000 J
- **D** 2260005 J

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25

What happens to the particles when a solid melts?

A they get smaller

B they stop moving altogether

C they disappear

D they move more freely

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ANSWER KEY

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

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