ENGLAND GCSE PHYSICS OCR GATEWAY HIGHER · 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 **A cup of coffee is left for an hour. What happens to its temperature?**

- A it stays the same all day
- B it falls to zero degrees
- C it rises above room temperature
- D it falls to room temperature

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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 2000 kg
- C 500 kg
- D 4000 kg

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3 **A hot air balloon cools down. What happens?**

A it sinks

B it bursts

C it rises faster

D it stays still

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

A exactly normal

B below normal

C above normal

D impossible to tell

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

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

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

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7 **A block has a mass of 1000 g and a volume of 500 cubic centimetres. What is its density?**

- A 1 g/cm³
- B 4 g/cm³
- C 5 g/cm³
- D 2 g/cm³

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

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

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9 **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 2000 J
- B 2100 J
- C 4000 J
- D 1000 J

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

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

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

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

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

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

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13 **A 10 kg block has a specific heat capacity of 500 J/kg degrees Celsius. Its temperature rises by 5 degrees Celsius. How much energy is needed?**

- A 50000 J
- B 25500 J
- C 25000 J
- D 12500 J

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14 **In the specific heat capacity practical, why is insulation put around the block?**

- A to make the block heavier
- B to stop the block melting
- C to cut heat loss
- D to keep the heater cool

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15 **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 10 degrees Celsius?**

- A 45000 J
- B 90000 J
- C 22500 J
- D 4500 J

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16 **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 1336000 J
- B 668000 J
- C 334002 J
- D 334000 J

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

- A 2 g/cm³
- B 4 g/cm³
- C 1 g/cm³
- D 0.5 g/cm³

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

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

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19 **What happens to internal energy when a substance is heated?**

A it becomes zero

B it increases

C it decreases

D it stays the same

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20 **A 4 kg mass of ice melts. The specific latent heat of fusion of ice is 200 J/kg. How much energy is needed?**

A 400 J

B 900 J

C 800 J

D 1600 J

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

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

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

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

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

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

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

- A they move more freely
- B they get smaller
- C they disappear
- D they stop moving altogether

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25 **A 4 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 80000 J

B 40500 J

C 40000 J

D 20000 J

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ANSWER KEY

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

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