ENGLAND GCSE COMBINED SCIENCE OCR TWENTY FIRST CENTURY FOUNDATION · UNIT 18 · 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 so it can be fixed.

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

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

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

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3 **A thermometer is placed in hot water. What happens to the liquid inside the thermometer?**

- A it evaporates
- B it contracts
- C it freezes
- D it expands

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4 **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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5 **An ice cream cone melts. What is the melting point of the ice cream?**

A around 0 degrees Celsius

B around minus 20 degrees Celsius

C around 100 degrees Celsius

D around 37 degrees Celsius

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6 **A ladder is used to reach a roof. What is the ladder an example of?**

- A a power source
- B a lever only
- C a simple machine
- D a complex machine

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7 **A 2 kg block has a specific heat capacity of 100 J/kg degrees Celsius. Its temperature rises by 20 degrees Celsius. How much energy is needed?**

- A 4000 J
- B 2000 J
- C 8000 J
- D 4500 J

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8 **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 500 J
- B 400 J
- C 200 J
- D 800 J

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

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

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10 **A spring has a spring constant of 50 N/m. It is stretched by 5 cm. What is the force?**

- A 5 N
- B 1.25 N
- C 2.5 N
- D 3 N

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11 **How much energy is needed to heat 4 kg of a substance with a specific heat capacity of 2100 J per kg per degree Celsius by 20 degrees Celsius?**

- A 8400 J
- B 336000 J
- C 84000 J
- D 168000 J

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12 **In the specific heat capacity practical, why is the heater left on for the same time for each block?**

- **A** the energy supplied is the same
- **B** so the thermometer reads zero
- **C** so each block melts
- **D** so the heater does not cool down

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13 **An object has a mass of 200 g and a volume of 25 cubic centimetres. What is its density?**

- **A** 16 g/cm³
- **B** 4 g/cm³
- **C** 225 g/cm³
- **D** 8 g/cm³

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14 **A block has a mass of 1000 g and a volume of 250 cubic centimetres. What is its density?**

- A 8 g/cm³
- B 2 g/cm³
- C 4 g/cm³
- D 7 g/cm³

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

- A melting, which takes energy in
- B boiling, which takes energy in
- C condensing
- D subliming, which takes energy in

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16 **What happens to a spring if it is stretched past its limit of proportionality?**

- A it snaps at once
- B it stops stretching
- C it stays stretched
- D it gets stronger

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17 **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 4520000 J
- B 1130000 J
- C 2260000 J
- D 2260001 J

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18 **A 10 kg block has a specific heat capacity of 100 J/kg degrees Celsius. Its temperature rises by 5 degrees Celsius. How much energy is needed?**

- A 10000 J
- B 5000 J
- C 2500 J
- D 5500 J

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

- A 100 g
- B 50 g
- C 15 g
- D 25 g

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20 **A spring has a spring constant of 10 N/m. It is stretched by 2 cm. What is the force?**

- A 0.1 N
- B 0.7 N
- C 0.4 N
- D 0.2 N

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21 **How much energy is needed to heat 4 kg of a substance with a specific heat capacity of 900 J per kg per degree Celsius by 20 degrees Celsius?**

- A 3600 J
- B 72000 J
- C 144000 J
- D 36000 J

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

A by measuring its length only

B by the rise in water level

C by weighing it twice

D by heating it and timing it

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

A 4 g/cm³

B 1 g/cm³

C 2 g/cm³

D 30 g/cm³

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24 **A block has a mass of 1000 g and a volume of 100 cubic centimetres. What is its density?**

- A 10 g/cm³
- B 5 g/cm³
- C 13 g/cm³
- D 20 g/cm³

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

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

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ANSWER KEY

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

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