ENGLAND GCSE COMBINED SCIENCE OCR TWENTY FIRST CENTURY HIGHER · 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 ladder is climbed. Which energy store increases?**

- A gravitational potential
- B elastic potential energy
- C thermal energy from friction
- D kinetic energy of motion

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

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3 **An ice cream cone is put in a freezer. What happens to the liquid?**

- A it boils
- B it condenses
- C it freezes
- D it evaporates

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

- A it sinks
- B it rises faster
- C it bursts
- D it stays still

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5 **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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6 **A thermometer is placed in hot water. What happens to the liquid inside the thermometer?**

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

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

- A 2.5 g/cm³
- B 60 g/cm³
- C 5 g/cm³
- D 10 g/cm³

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

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

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9 **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 9000 J
- C 1800 J
- D 18000 J

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

A gas

B plasma

C liquid

D solid

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11 **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 334002 J

B 334000 J

C 1336000 J

D 668000 J

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12 **A 5 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 2000 J
- C 500 J
- D 1100 J

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13 **A 2 kg block has a specific heat capacity of 100 J/kg degrees Celsius. Its temperature rises by 10 degrees Celsius. How much energy is needed?**

- A 2000 J
- B 2500 J
- C 4000 J
- D 1000 J

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

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

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

- A 0.2 N
- B 0.9 N
- C 0.4 N
- D 0.8 N

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16 **A substance is heated but its temperature does not change. What is the energy doing?**

A escaping as light

B heating the container only

C breaking bonds

D making the particles stop

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

A by heating it and timing it

B by the rise in water level

C by weighing it twice

D by measuring its length only

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18 **What is elastic potential energy?**

- **A** stored stretch energy
- **B** energy stored in a fuel
- **C** energy of a hot object
- **D** energy of movement

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19 **An object has a mass of 200 g and a volume of 20 cubic centimetres. What is its density?**

- **A** 20 g/cm³
- **B** 220 g/cm³
- **C** 5 g/cm³
- **D** 10 g/cm³

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

- A 62.5 g
- B 125 g
- C 30 g
- D 250 g

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21 **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 42000 J
- B 84000 J
- C 4200 J
- D 21000 J

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22 **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 2260001 J
- B 4520000 J
- C 1130000 J
- D 2260000 J

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23 **A 10 kg mass of ice melts. The specific latent heat of fusion of ice is 100 J/kg. How much energy is needed?**

- A 1000 J
- B 500 J
- C 1100 J
- D 2000 J

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24 **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 12500 J
- C 25000 J
- D 25500 J

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25 **A block has a mass of 500 g and a volume of 250 cubic centimetres. What is its density?**

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

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ANSWER KEY

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

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