

OCR A Physics GCSE

1.2 - Changes of State

Flashcards

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What are the 5 main ways that a substance can change state?



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1. Melt
2. Freeze
3. Evaporate
4. Condense
5. Sublimate



What is sublimation?



What is sublimation?

When a substance transitions from a solid straight to a gas without transitioning into a liquid in between.



What is always conserved when a substance changes state?



What is always conserved when a substance changes state?

Mass



How does a change of state differ from a chemical change?



How does a change of state differ from a chemical change?

In a change of state, the material can return to having its previous properties if the change is reversed.



What two things can heating a substance do?



What two things can heating a substance do?

1. Raise its temperature
2. Change the state of the substance



Define specific heat capacity.



Define specific heat capacity.

The amount of energy needed to increase the temperature of 1kg of a substance by 1°C .



What can be said about a material if it has a higher specific heat capacity?



What can be said about a material if it has a higher specific heat capacity?

For a constant mass, the material will need more energy to achieve a given temperature change.



Define specific latent heat.



Define specific latent heat.

The amount of energy needed to change the state of 1kg of a substance **with no change in temperature.**



State the equation for the energy required to change state. Give appropriate units.



State the equation for the energy required to change state. Give appropriate units.

- $E = mL$
- Energy to change state = mass x specific latent heat
- Energy (J), Mass (kg), Specific latent heat (J/kg)



What is the internal energy of a substance?



What is the internal energy of a substance?

- The energy stored by the particles
- The sum of the total kinetic and potential energies that make up the system

