OCR A Physics GCSE

1.2 - Changes of State

Flashcards

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?

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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?

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Mass

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

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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?

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

Define specific heat capacity.

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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?

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

Define specific latent heat.

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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.

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- 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