Thermodynamics

International Baccalaureate · IB Diploma · Physics · HL · Vocabulary in context

Word	Example
closed system /kləʊzd ˈsɪstəm/	In a **closed system**, no energy goes in or out.
isolated system /ˈaɪsəleɪtɪd ˈsɪstəm/	A perfect flask is an **isolated system**: nothing goes in or out.
first law of thermodynamics /fɜːst lɔː ɒv ˌθɜːməʊdaɪˈnæmɪks/	The **first law of thermodynamics** is about heat, work and internal energy.
isovolumetric process	Heating gas in a closed can is an **isovolumetric process**.
isobaric process	Heating gas in a balloon at steady pressure is an **isobaric process**.
isothermal process	In an **isothermal process**, the temperature stays the same.
adiabatic process	In an **adiabatic process**, no heat goes in or out.
heat engine	A car engine is a **heat engine**.
cycle /ˈsaɪkl/	One **cycle** brings the gas back to where it started.
efficiency /ɪˈfɪʃənsi/	A lamp with 20% **efficiency** turns only a fifth of its energy into light.
Carnot cycle	The **Carnot cycle** is the most efficient engine cycle.
entropy /ˈentrəpi/	A file with high **entropy** is hard to compress.

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microstate	Each **microstate** is one arrangement of the particles.
macrostate	The **macrostate** is described by pressure and temperature.
second law of thermodynamics /ˈsekənd lɔː ɒv ˌθɜːməʊdaɪˈnæmɪks/	The **second law of thermodynamics** says entropy never decreases.