The ideal gas

- Explain how an ideal gas differs from a lattice gas

- How do the particles that make up an ideal gas interact.

- Give an expression for the Hamiltonian for a system of N ideal gas atoms

- Describe the set of microstates than an ideal gas can occupy

The ideal gas

- Give an expression for the partition function of a single gas atom and explain how you arrived at this expression

- Explain why Plancks constant appears in the expression for the partition function for an ideal gas

- Explain Gibbs paradox and how this problem is resolved in practise

- Explain how the well-known equation of state for the ideal gas is derived by taking suitable derivatives of the partition function