



**MathsNET**

A joined up approach to  
teaching and learning  
mathematics

# Introduction to statistical mechanics

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- Explain the meaning of the term microstate in statistical mechanics.
- Explain what we mean by phase space when we use this term in statistical mechanics
- Explain what we mean when we talk about accessible microstates in the context of statistical mechanics. For example explain the meaning of the following statement "if the system has a fixed total energy  $E$  then only a subset of the microstates in phase space are accessible" by making reference to the energies of the accessible and inaccessible microstates.
- State the principle of equal a priori probabilities