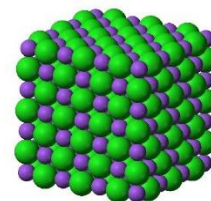


Lattice Enthalpy



The key areas of study in this topic are:

- Lattice enthalpy
- Born–Haber and related enthalpy cycles

By the end of this topic I should be able to:

	Start	End
Explain the term <i>lattice enthalpy</i> (formation of 1 mol of ionic lattice from gaseous ions, $\Delta_{LE}H$) and use it as a measure of the strength of ionic bonding in a giant ionic lattice		
Use of the lattice enthalpy of a simple ionic solid (i.e. NaCl, MgCl ₂) and relevant energy terms for: <ul style="list-style-type: none"> • the construction of Born–Haber cycles • related calculations 		
Define and use of the terms: <ul style="list-style-type: none"> • <i>enthalpy change of solution</i> (dissolving of 1 mol of solute, $\Delta_{sol}H$) • <i>enthalpy change of hydration</i> (dissolving of 1 mol of gaseous ions in water, $\Delta_{hyd}H$) 		
Use the enthalpy change of solution of a simple ionic solid (i.e. NaCl, MgCl ₂) and relevant energy terms (enthalpy change of hydration and lattice enthalpy) for: <ul style="list-style-type: none"> • the construction of enthalpy cycles • related calculations 		
Explain qualitatively the effect of ionic charge and ionic radius on the exothermic value of a lattice enthalpy and enthalpy change of hydration.		

In all topic areas you should be able to demonstrate and apply your knowledge and understanding.

