Ionic Compounds

copper (II) sulphate
$CuSO_4$

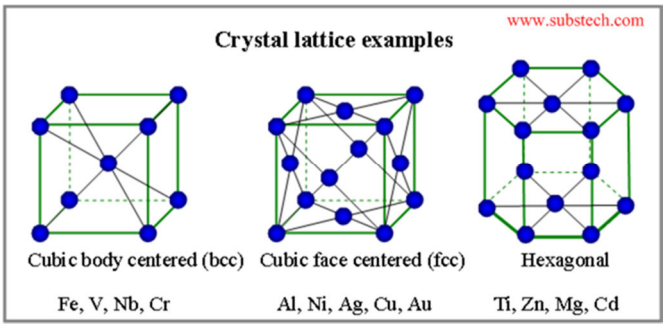
sodium chloride
NaCl

calcium fluoride
CaF_2

An ionic bond occurs when electrons are completely transferred from one element to another. This results in the formation of a positive ion (the electron donor) and a negative ion (the electron acceptor). You have learned that this usually occurs between a metal and a non-metal.

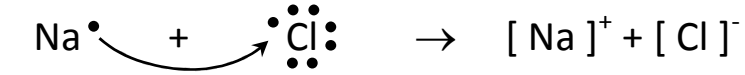
What holds an ionic compound together (usually solid at room temperature)?

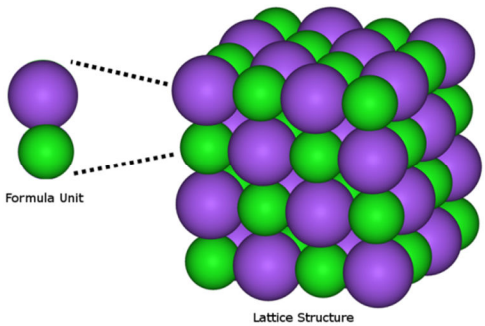
This results in the even distribution of positive and negative ions throughout an ionic solid resulting in a structure known as a _____. Depending on the specific elements involved in the ionic bond, crystal lattices take a variety of forms, but each is a regular, repeating pattern. This ultimately results in their ability to crystalize into specific geometric shapes in their solid form.



sodium + chlorine → sodium chloride

Na + Cl → NaCl *(table salt)*

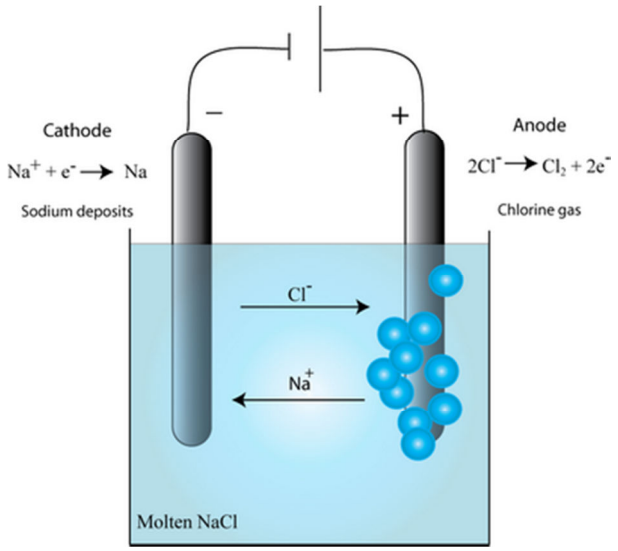




What does the chemical formula of an ionic compound represent?

The chemical formula for table salt (an ionic compound) is NaCl. We now know that there are no individual molecules of NaCl, but rather a much larger aggregation of Na^+ and Cl^- ions in a crystal lattice structure. The chemical formula for an ionic compounds represents the smallest repeating unit in an ionic crystal known as the _____.

Properties of Ionic Compounds EXPLAINED!

Property	Explanation
Solid at room temperature	
High M.P. and B.P.	
Soluble	
Conducts Electricity *when dissolved, or melted (liquid)* *Electorlytic*	
Does not conduct as a solid	
Brittle	