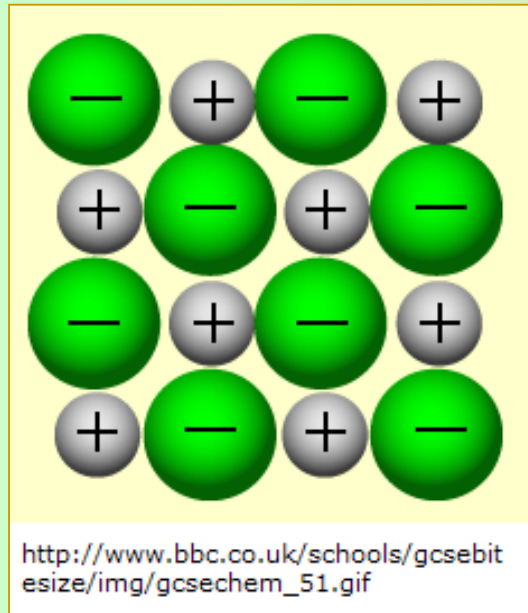


Properties of Ionic Compounds

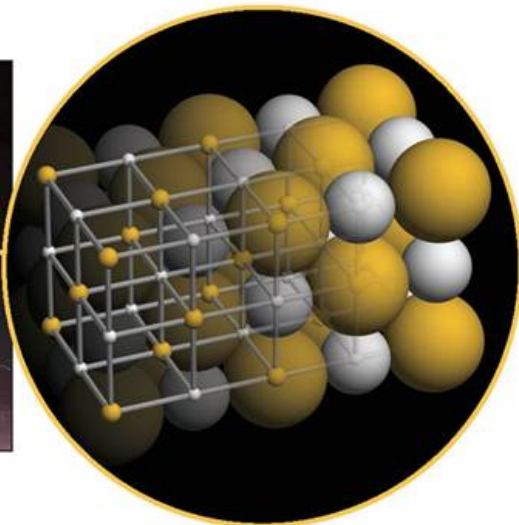


Physical state. Melting and boiling points

HIGH MELTING AND BOILING POINTS

Ionic bonds are very strong and a lot of energy is needed to break them, so ionic compounds have high melting points and boiling points.

They are solids.

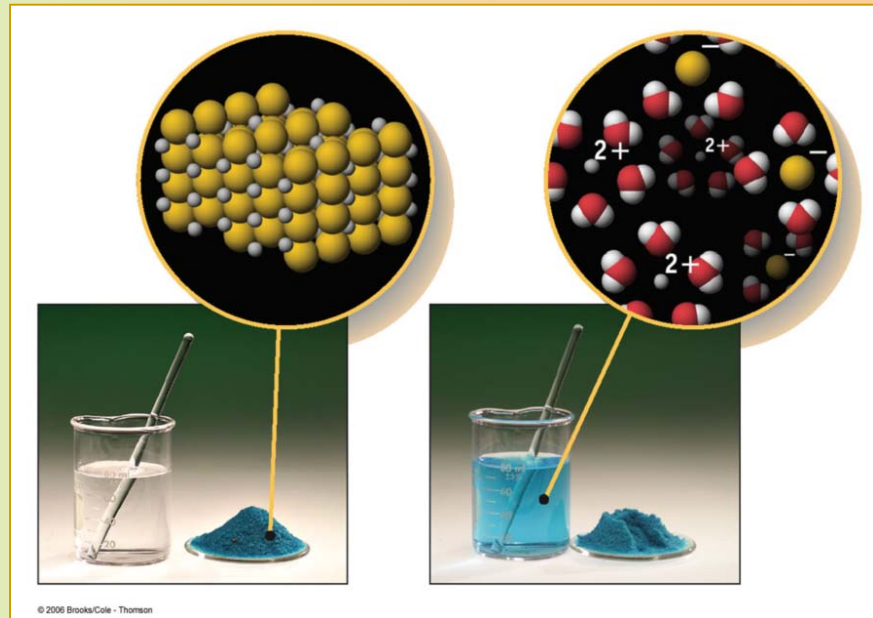
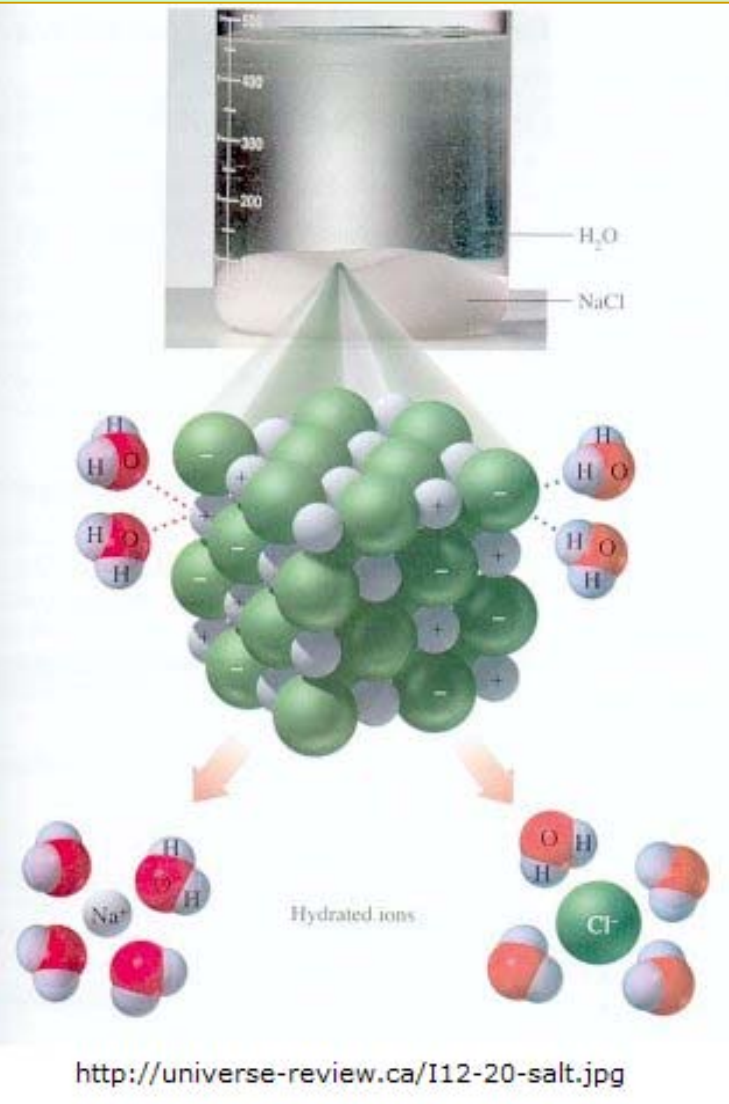


Properties of Ionic Compounds

Solubility in water

Ionic compounds tend to dissolve in water.

In this process of dissolving (also called **dissolution**), water molecules extract ions from the lattice. As a result, ions are wrapped (**solvated**) with water molecules.

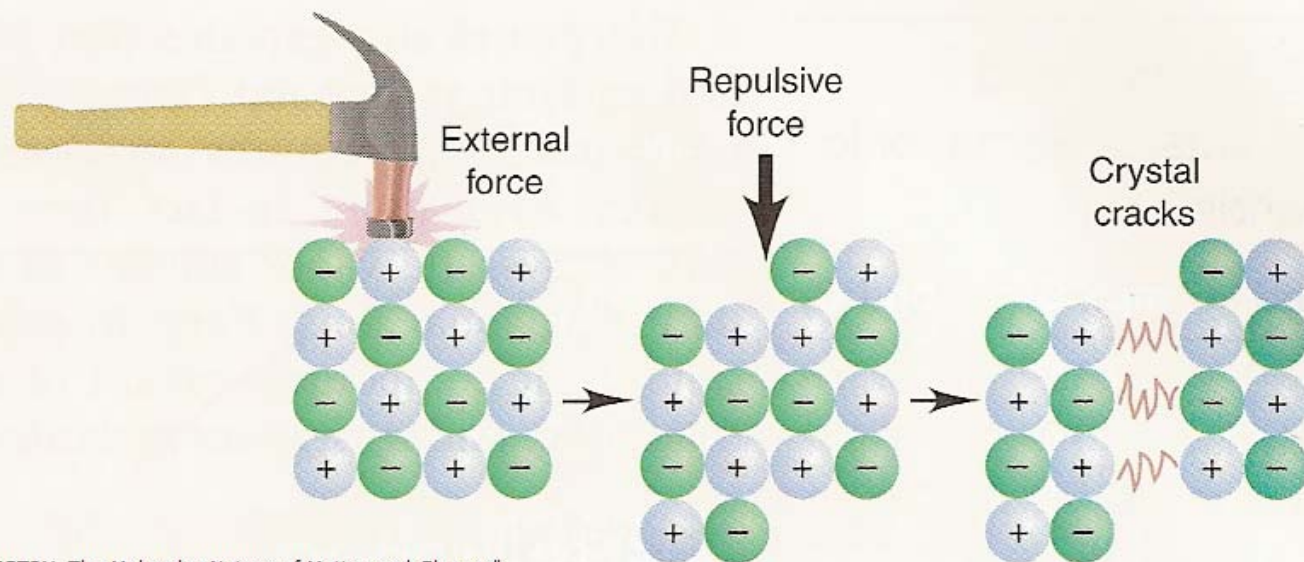


Properties of Ionic Compounds

Mechanical properties

Ionic compounds are brittle (crack without deforming).

This property is due to the powerful attractive forces that hold the ions in specific positions throughout the crystal. Moving the ions out of the position, ions of like charges are brought next to each other and the repulsions crack the sample suddenly.



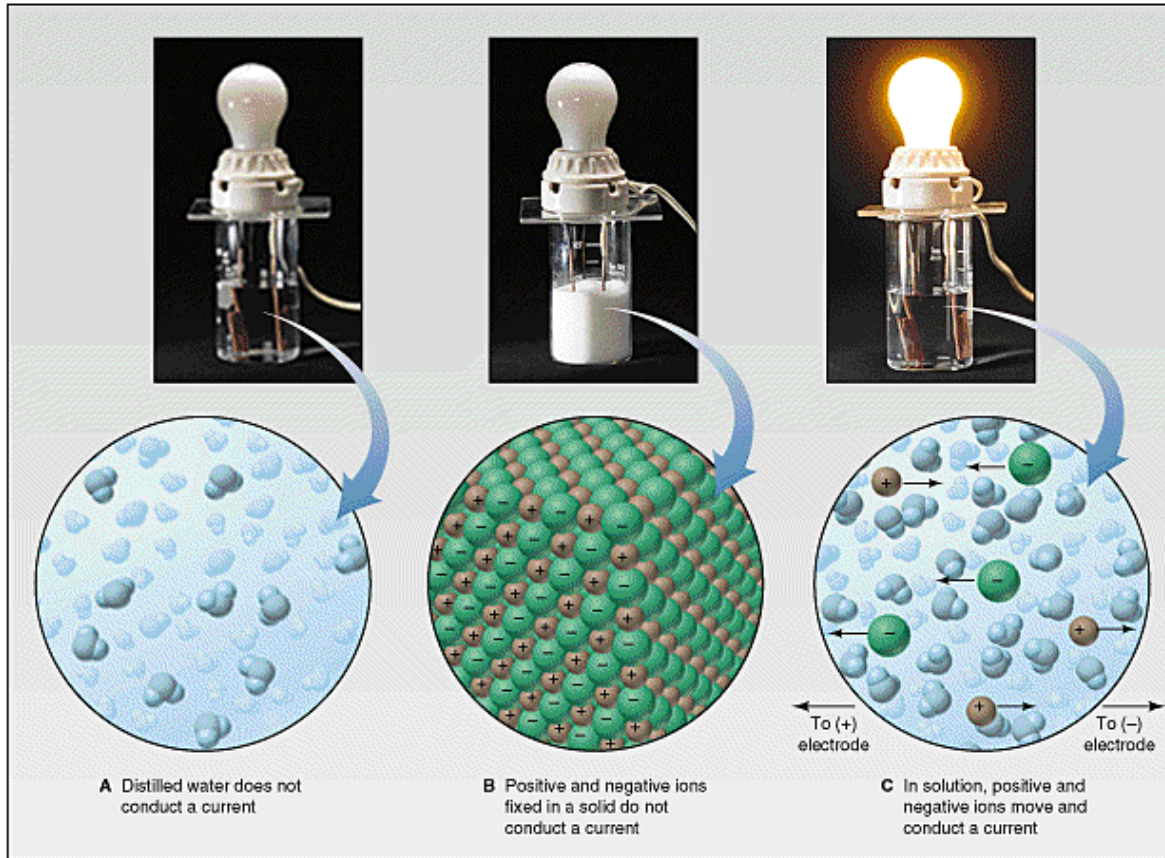
"CHEMISTRY. The Molecular Nature of Matter and Change"
Silberberg, Mc Graw Hill

Properties of Ionic Compounds

Electrical properties

Ions are charged particles, but ionic compounds can only conduct electricity if their ions are free to move.

So ionic compounds do not conduct electricity when they are solid, but they do conduct electricity when they are dissolved in water or when they are melted.



http://itl.chem.ufl.edu/2051_s97/week_1/c4f8.gif