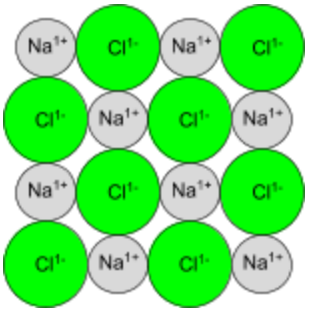
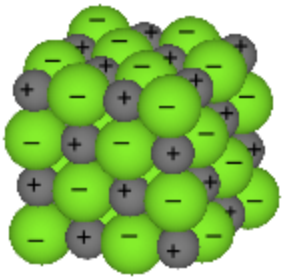
Solids:

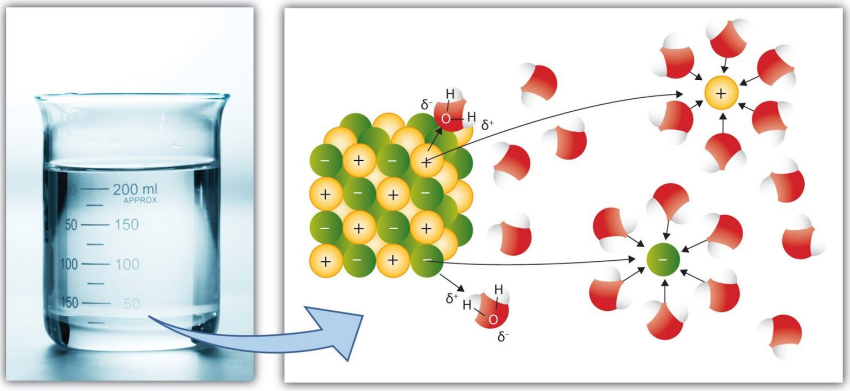
Ionic Salts: sodium chloride (NaCl), copper (II) chloride ($CuCl_2$) and baking soda ($NaHCO_3$)





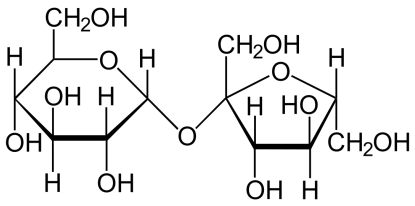
Ionic salts are made of positive metal ions (Na^{1+}) and negative nonmetal ions (Cl^{1-}) arranged in a crystal lattice. Ions are held strongly together in a crystal lattice, and therefore, cannot move.

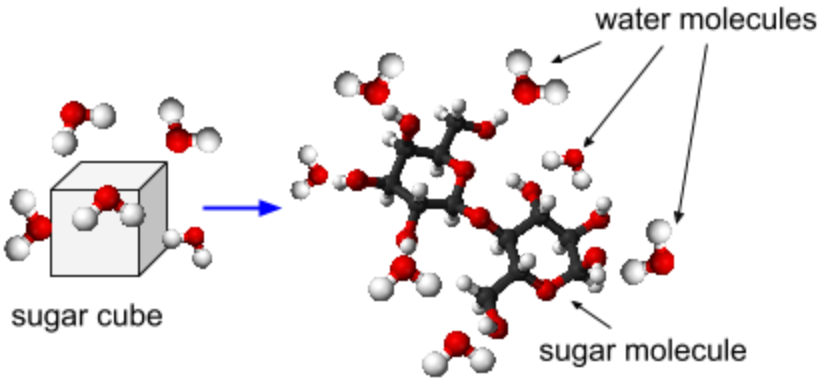
When an ionic salt dissolves in water positive and negative ions can move freely among water molecules:



Molecular (covalent) solids:
sugar ($C_{12}H_{22}O_{11}$)

Molecular solids are made of non-metals only.





Metals: copper metal (Cu), magnesium metal (Mg)