## Differences between Ionic and Molecular compounds

Ionic compounds:	Covalent or Molecular compounds:
1. Are formed by electrostatic attraction between cations (atoms that have lost e <sup>-</sup> ) and anions (atoms that have gained e <sup>-</sup> ).	Are formed by sharing of electron pairs ir between atoms. A shared pair of e <sup>-</sup> is called a covalent bond.
<ol><li>Can be recognized from formula if it has a combination of :</li></ol>	Can be recognized from formula if it has combination of:
Metal and a nonmetal ion, e.g. KF	Nonmetal and a nonmetal, e.g. CO or more than two nonmetals, e.g. $H_2CO_3$ Metalloid and a nonmetal, e.g. SbCl <sub>3</sub>
Metal and a polyatomic ion, e.g. $KNO_3$	
$NH_4^+$ and a nonmetal ion, e.g. $NH_4Cl$	
$NH_4^+$ and a polyatomic ion, e.g. $(NH_4)_2SO_4$	
3. Are usually solids and brittle	Many are liquids or gases.
<ol> <li>Have high melting (above 300°C) and boiling points. On melting, the ionic bond is broken.</li> </ol>	Large molecules are solids with low melting points (below 300°C). On melting and boiling, the attractions in between molecules (intermolecular forces) are brc
<ol> <li>Conduct electrical current in molten state as ions are free to move.</li> </ol>	Usually do not conduct electrical current when melted.
<ol> <li>When dissolved in water, they separa out into ions. Their water solutions conduct electrical current.</li> </ol>	They may dissolve in water if they have the O, N or F atom. Their water solutions usually do not conduct electrical current. Exceptions are acids like HCI. Its aqueou solution is a strong electrical conductor.
7. Ionic compounds do not have discrete units. They have an extended array of alternating positive and negative ions, their formula is the simplest ratio of these ions, also called formula unit.	Their basic unit is a discrete molecule i.e. why they are called molecular compounds and their formula is called molecular formula.