

# Types of Compounds

Atoms react to have full valence shells like the noble gases (called a stable octet)

Ionic Compounds	Molecular Compounds
<ul style="list-style-type: none"><li>- atoms lose or gain <math>e^-</math> to become ions</li><li>- cations and anions attract each other, forming ionic bonds</li><li>- crystalline solids at room temperature (see Fig 3.13 pg 79)</li><li>- high melting and boiling points</li><li>- conductive when melted or dissolved in water. (need moving charges, called electrolytes)</li><li>- hard and brittle</li></ul>	<ul style="list-style-type: none"><li>- atoms share <math>e^-</math> to form covalent bonds</li><li>- liquid, gases and solids at room temperature</li><li>- low melting and boiling points</li><li>- non-conductive (non-electrolytes)</li><li>- soft and flexible</li></ul>

## Ionic Bonding

# Covalent Bonding

## Polyatomic Ions

- a group of non-metals covalently linked with an overall charge

-has a coordinate covalent bond (sharing of a lone pair)

Ex  $\text{NH}_4$