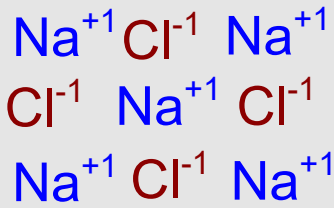


### Changing phases:

Ionic

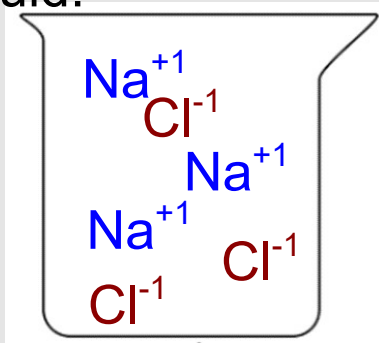
Solid → liquid → ~~gas~~

solid:



to melt:  
break ionic bonds

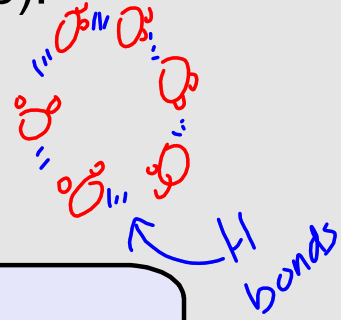
liquid:



Covalent

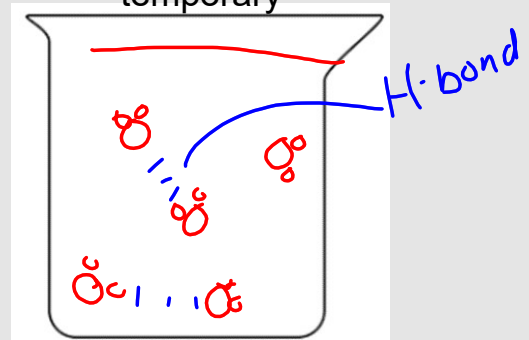
Solid → liquid → gas  
 $\text{H}_2\text{O}$  →  $\text{H}_2\text{O}$  →  $\text{H}_2\text{O}$

solid (ice):



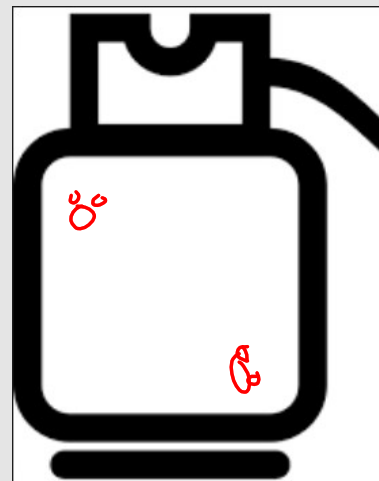
to melt:  
break H bonds  
(covalent bonds do not break)

liquid: H bonds are temporary



gas

breaks all H bonds

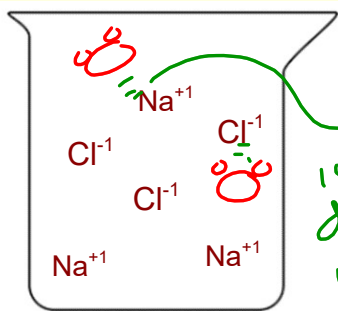


# Dissolving

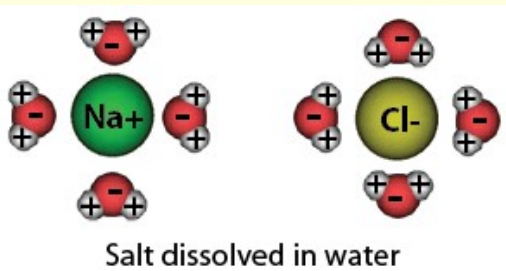
## Ionic

### NaCl

ionic bonds break  
-into ions



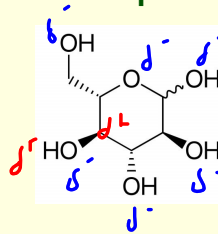
water orients around ions  
-using charge



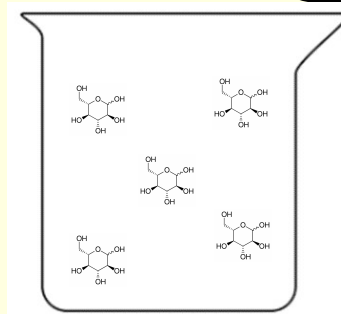
## Covalent

### C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>

polar

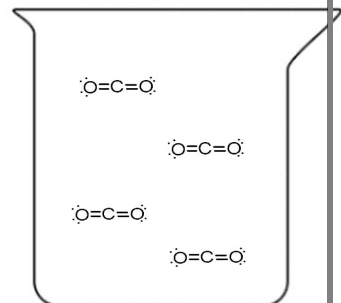
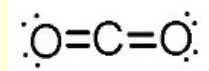


do not break  
covalent bonds



water orients around ions  
-using charge

### CO<sub>2</sub> nonpolar



no charges  
water does  
not interact  
with CO<sub>2</sub>

