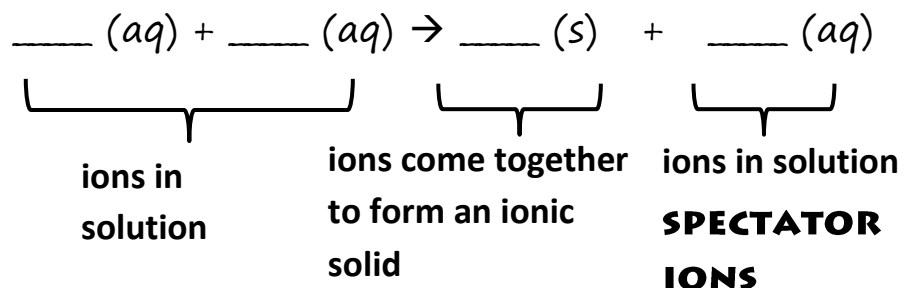


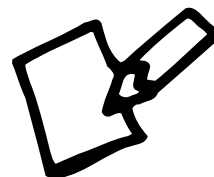
# ☂ precipitation ☂

( ) = dissolved ions, ions in solution ( ) = solid = precipitate




Write ionic equations

- Identify the precipitate using the solubility rules
- Write its formula; use table of ions and (s)
- Write the formulae of the ions ; and (aq)
- Balance it if necessary.



## Coloured precipitates

 iron(II) hydroxide

iron(II) carbonate 

copper carbonate 

copper hydroxide 

lead iodide   $PbI_2$

THE REST WE NEED TO KNOW ARE WHITE!!!

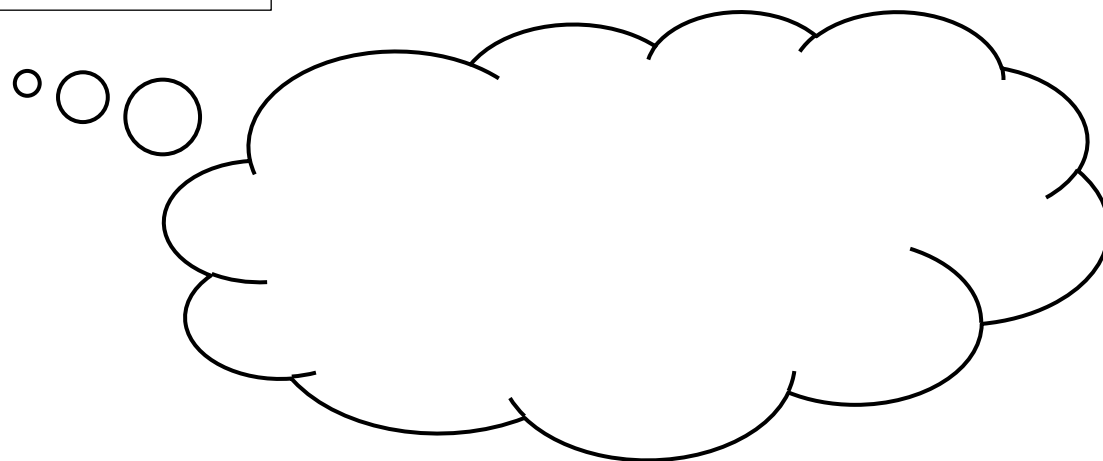
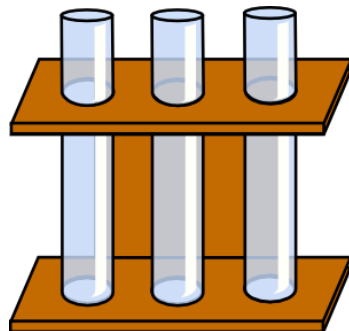
## Coloured solutions – SOLUTIONS CONTAINING....

$Cu^{2+}(aq)$  = blue

unless in  $CuCl_2$  then blue-green

$Fe^{2+}(aq)$  = pale green

Rest = colourless





## ... **DISPLACEMENT REACTIONS** ...



- Use the activity series – if metal 1 is more active/reactive than metal 2 then a displacement reaction will occur.
- The more reactive metal will displace a less reactive metal from a solution of its ions.

$\text{Zn(s)} + \text{CuSO}_4\text{(aq)} \rightarrow \text{ZnSO}_4\text{(aq)} + \text{Cu(s)}$

$\text{Cu}^{2+}\text{(aq)}$   
 is .....

$\text{SO}_4^{2-}\text{(aq)}$  &  
 $\text{Zn}^{2+}\text{(aq)}$  are  
 colourless

The silvery grey zinc would be covered in a \_\_\_\_\_ coating of \_\_\_\_\_ metal. The blue solution (blue because of the \_\_\_\_\_) would fade and eventually become colourless as \_\_\_\_\_ and \_\_\_\_\_ are both \_\_\_\_\_.

$\text{Zn} \rightarrow \text{Zn}^{2+} + 2\text{e}^-$  and  $\text{Cu}^{2+} + 2\text{e}^- \rightarrow \text{Cu}$   
 $\text{Zn} + \text{Cu}^{2+} \rightarrow \text{Zn}^{2+} + \text{Cu}$   
 $\text{Zn(s)} + \text{Cu}^{2+}\text{(aq)} \rightarrow \text{Zn}^{2+}\text{(aq)} + \text{Cu(s)}$