

Year 10 C Pathway

Mr. D. Patterson

INTRODUCTORY CHEMISTRY

Outcomes

- Write balanced ionic equations for precipitation and dissociation of ionic compounds in solutions

Chemical equations

- Equations can be used to show how chemicals interact during a reaction.



These are the reactants..
Because they react together

These are the products...
Because its what is left at
the end

Chemical equations

- Equations can be used to show how chemicals interact during a reaction.



(s) means the chemical is a solid

(l) means the chemical is a liquid

(g) means the chemical is a gas

(aq) means the chemical is dissolved in water

Chemical equations

- Equations can be used to show how chemicals interact during a reaction.



These are coefficients. They indicate how many of each chemical is used or produced.

Eg: $2Cl^{-}$ means 2 chloride ions



Steps for writing chemical equations

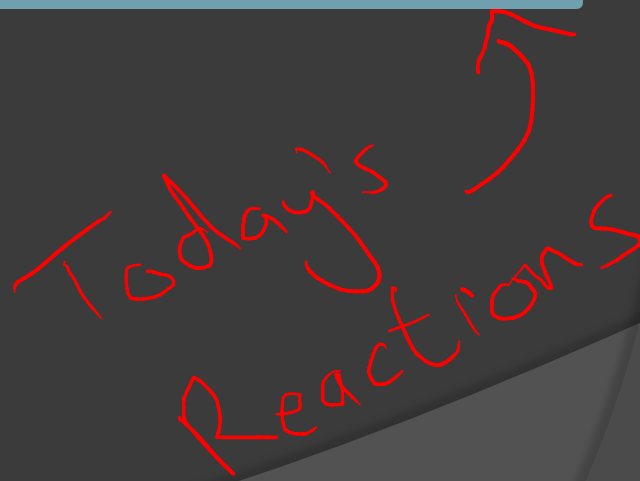
- ① 1. Write the unbalanced equation but make sure any **ionic compounds are balanced** using valencies
- ② 2. Balance the equation by putting **coefficients in front** of the chemicals (eg: $\underline{2}\text{Mg}$)
- ③ 3. Indicate the state of matter for all reactants and all products (eg: (s), (l), (g) or (aq))

Common reactions

● In this four week course we will look at reactions for:

- Ionic compounds dissociating when in water
- Ionic compounds precipitating when mixed
- Acid + metals
- Acid + metal hydroxides

Today's
Reactions



Ionic compounds dissociating when in water

- Dissociation of ions **may** occur when an ionic compound dissolves in water
Check using solubility tables
- Eg: dissociation of sodium sulfide

Solid dissociates (breaks apart) into individual ions

Ionic compounds dissociating when in water

- Dissociation of ions **may** occur when an ionic compound dissolves in water

Check using solubility
tables

- Eg: dissociation of sodium sulfide

Step 1



Solid dissociates (breaks apart) into individual ions

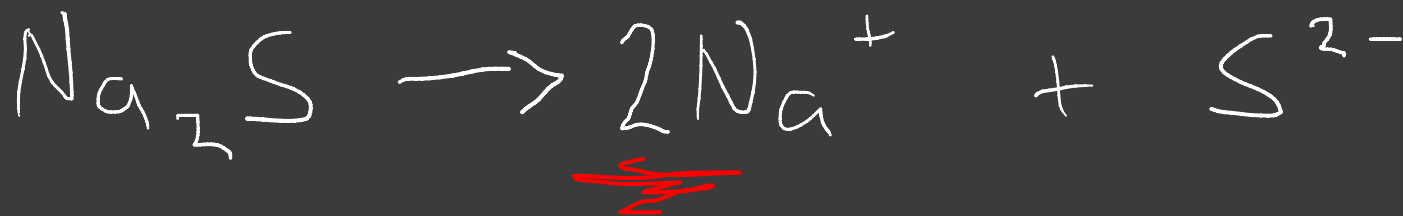
Ionic compounds dissociating when in water

- Dissociation of ions **may** occur when an ionic compound dissolves in water

Check using solubility tables

- Eg: dissociation of sodium sulfide

Step 2



Solid dissociates (breaks apart) into individual ions

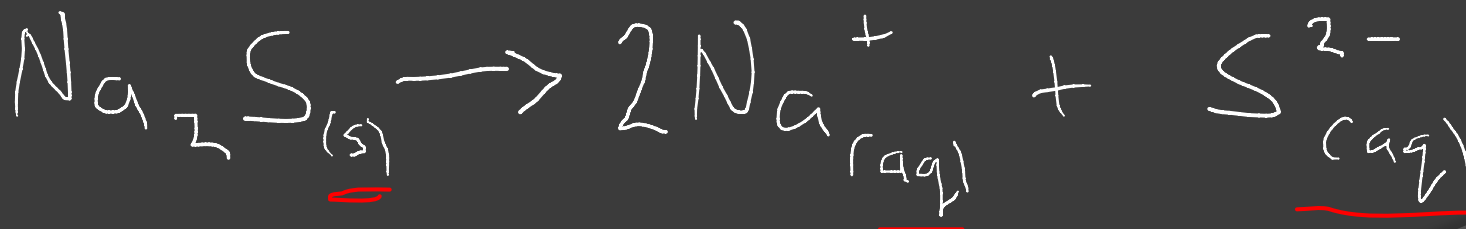
Ionic compounds dissociating when in water

- Dissociation of ions **may** occur when an ionic compound dissolves in water

Check using solubility tables

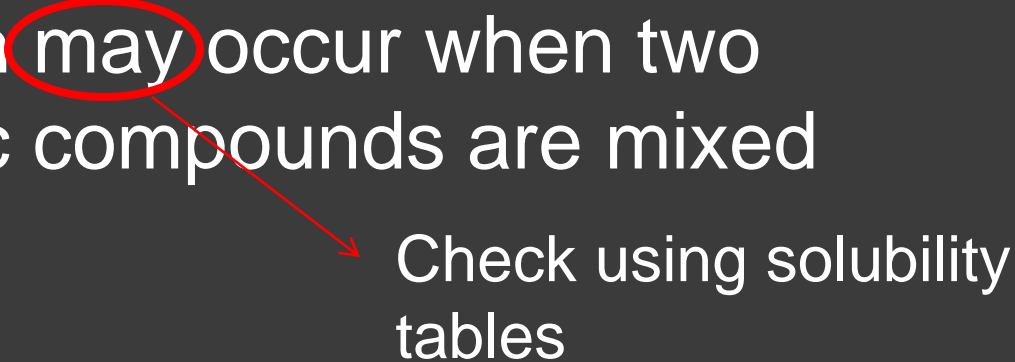
- Eg: dissociation of sodium sulfide

Step 3



Solid dissociates (breaks apart) into individual ions

Ionic compounds precipitating when mixed

- Precipitation **may** occur when two soluble ionic compounds are mixed together


Check using solubility tables
- Eg: Mixing of sodium iodide and lead nitrate

Ions come together and form a solid (precipitate)

Ionic compounds precipitating when mixed

- Precipitation **may** occur when two soluble ionic compounds are mixed together

Check using solubility tables

- Eg: Mixing of sodium iodide and lead nitrate



Step 1

Ions come together and form a solid (precipitate)

Ionic compounds precipitating when mixed

- Precipitation **may** occur when two soluble ionic compounds are mixed together
Check using solubility tables
- Eg: Mixing of sodium iodide and lead nitrate

Step 2



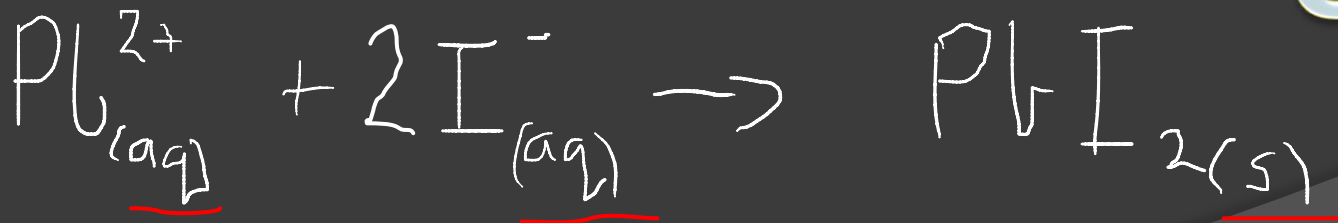
Ions come together and form a solid (precipitate)

Ionic compounds precipitating when mixed

- Precipitation **may** occur when two soluble ionic compounds are mixed together

Check using solubility tables

- Eg: Mixing of sodium iodide and lead nitrate



Step 3

Ions come together and form a solid (precipitate)

Outcomes

- Write balanced ionic equations for precipitation and dissociation of ionic compounds in solutions
- Worksheet: “steps for writing chemical equations”
- Checkpoint 7.5, 7.6, Set 11 (Q4-5)