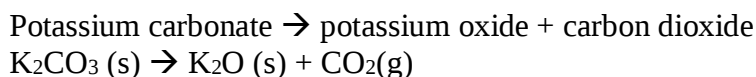
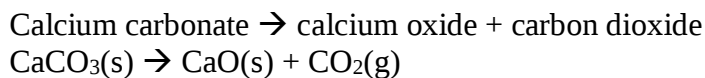
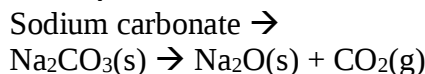
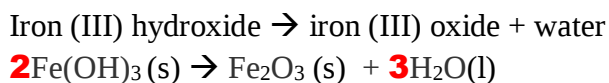
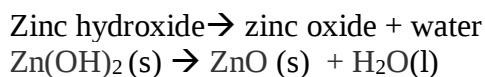


**Chemistry 11 – Taking a closer look at
TYPES OF DECOMPOSITION REACTIONS
ANSWERS**

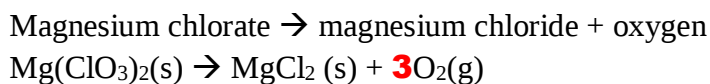
1) Metal carbonates decompose to produce metal oxides and carbon dioxide.



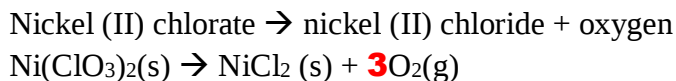
2) Metal hydroxides decompose to produce metal oxides and water.



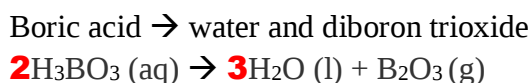
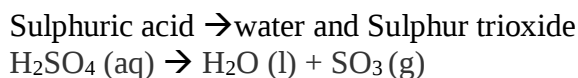
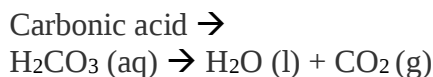
3) Metal chlorates decompose to produce metal chlorides and oxygen gas.



Remember that diatomic elements like oxygen would be O_2 even if they were liquid. A diatomic element is NOT dependent on it being in the gaseous state.



4) Oxyacids decompose to produce water and a nonmetal oxide gas.



5) Metal oxides decompose to produce metals and oxygen gas.

Mercury (II) oxide →



Mercury is a liquid at room temperature

Copper (II) oxide → copper (solid at room temp) and oxygen (gas at room temp)

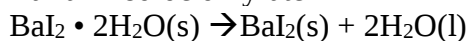


Silver oxide → silver and oxygen

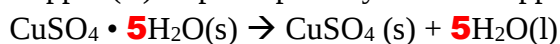


7) Hydrates are compounds that readily absorb water into their crystal structure. When a hydrate decomposes, water is removed.

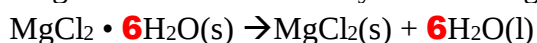
Barium iodide dihydrate →



Copper (II) sulphate pentahydrate → copper (II) sulphate plus water



Magnesium chloride hexahydrate → magnesium chloride plus water



7) Some compounds can be decomposed by electricity into their elements.

NOTE THAT This is very different than dissociation of solutions into ions!

Sodium chloride → sodium solid and chlorine gas



SOLID Silver bromide →

(decomposition can occur with only the addition of sunlight)



Bromine is a diatomic element. It is also a liquid at room temperature

SOLID Aluminum oxide →



8) AS PART OF THE ABOVE CATEGORY,

Water can decompose to produce oxygen gas and hydrogen gas.

Often by the process of electrolysis (decomposition by applying electricity).

WATER → hydrogen (gas) and oxygen (gas)

