

## Notes – Chemical Reactions

### Evidence of a chemical change (chemical reaction)

1. color change
2. odor change
3. bubbles form (a gas)
4. a solid forms (a precipitate)
5.  $\text{H}_2\text{O}$  forms
6. change in energy (temperature)

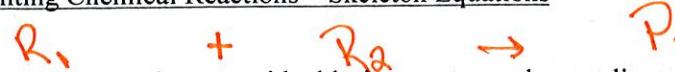
### Terms to Know

1. Reactant - starting substances in a chemical reaction
2. Product - substances formed in a chemical reaction
3. + separates 2 reactants or 2 products
4.  $\rightarrow$  yields (produces)
5. (s) solid
6. (l) liquid
7. (g) gas
8. (aq) aqueous (dissolved in  $\text{H}_2\text{O}$ , a solution)
9. Vapor - gas
10. Precipitate a solid that forms from 2 liquids

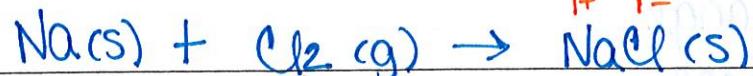
7 Diatomic Elements – there are 7 elements that exist as diatomic molecules because they are more stable that way.



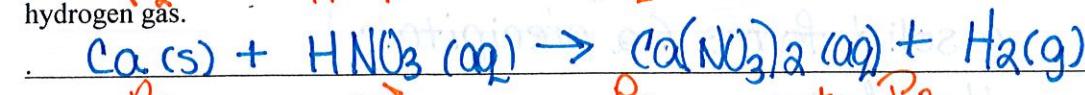
### Representing Chemical Reactions – Skeleton Equations



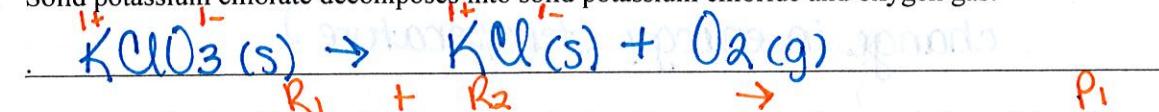
1. Sodium metal reacts with chlorine gas to produce sodium chloride crystals.



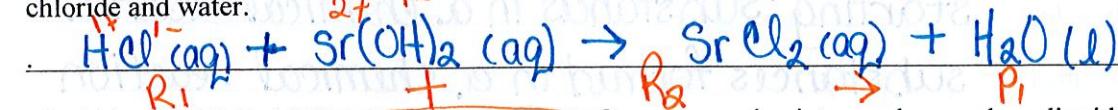
2. Calcium metal reacts with nitric acid solution to produce a solution of calcium nitrate and hydrogen gas.



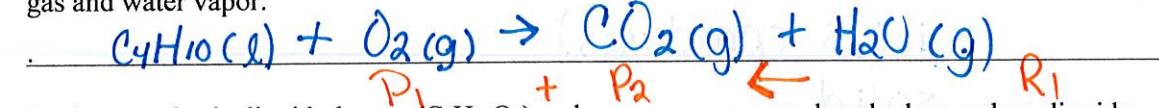
3. Solid potassium chlorate decomposes into solid potassium chloride and oxygen gas.



4. Solutions of hydrochloric acid and strontium hydroxide react to produce a solution of strontium chloride and water.



5. Liquid butane ( $C_4H_{10}$ ) is burned in the presence of oxygen gas in air to produce carbon dioxide gas and water vapor.



6. In photosynthesis, liquid glucose ( $C_6H_{12}O_6$ ) and oxygen gas are produced when carbon dioxide gas and water react in the presence of sunlight.



$$E = (h\nu)$$