

Chemical Reactions - chemical change

• Evidence of a reaction

- (1) permanent color change
- (2) permanent odor change
- (3) gas bubbles form
- (4) a solid forms from liquids (precipitation)
- (5) H_2O forms
- (6) change in energy (temperature)

• Terms

- (1) reactant - starting substances in a reaction
- (2) product - substances formed in a reaction
- (3) \rightarrow - yields (produces) separates reactants from products
- (4) $+$ - separates reactants (or products) from each other
- (5) (s) - solid
- (6) (l) - liquid
- (7) (g) - gas
- (8) (aq) - aqueous (in solution \approx dissolved in H_2O)
- (9) vapor - gas

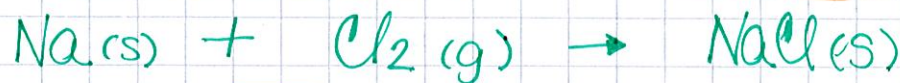
• 7 Diatomic Elements - elements that exist as 2 atoms bonded together



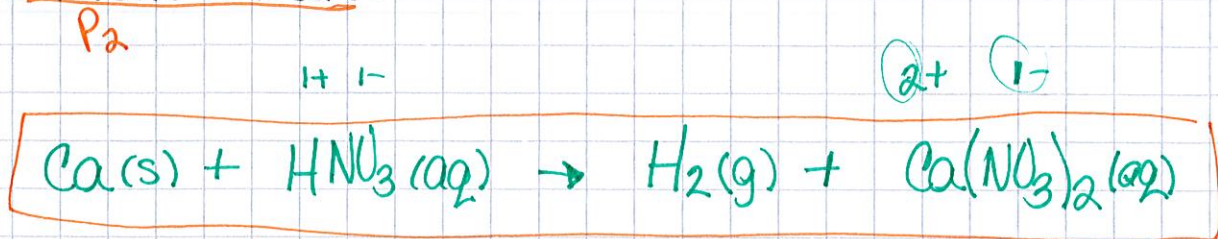
• Representing a Chemical Reaction

- Skeleton Equations

Ex) R_1 Sodium metal reacts with R_2 chlorine gas to produce sodium chloride crystals.



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



Solid potassium chlorate decomposes to produce solid potassium chloride and oxygen gas.

