Chemical Reaction
Always involved a rearrangment of the way in which atoms
are grouped.
· Atom neither created or destroyed.
physical State
solid (5)
Liquid Cl)
995 (9)
dissolved in water, (ag)
eg. K(s) + H2O(l) -> H2(g) + k01-1(aq)
How to balance equation
1) Consider the most complicated indeciale.
eg. K+H20 -> H21+ KHO
J Stant with.
2H22 +2K -> H2+ 2KHO
NH3 + 02 -> NO + H20
2NHz + \(\frac{5}{2}\) = >2ND+3H2D
4NH3+502 -> 4ND+6H20
4NH3+502 -> 4NJ+01120

Reaction in Aqueous Solution
Whether Will occured
Oform Solid: precipitation
Also called precipitation reaction
Grong electrolyte: when ions dissolved in water.
when monit compound dissolved the solution contain
When inonic compound dissolved, the solution contain the seperated ions
how to décide the product guess
eg. K2(rO4 (aq) + 13a(NO3)2 (aq)
or
K+, Cr242, Box, NOZ
k2Cr04 kNO3 = Not form still
Bu(NOz)= Bu(ruy but still long
·: reactour
1, finally
K2 (r04 (aq) + Ba (NO3)2 (aq) > Par (r04 G) + KNO3 (aa)

Crouz Bacro4
Solubility Rules
Soluble Solid.
insoluble solid
Slightly soluble.
Rules
OMOGI (NOz-) Gult are soluble
@ salt of Not, Kt, and NH4t are stuble.
3 Most Chloride salt are solumble.
4) Nout Gurfate salt are solvable.
6) Mac+ hydraxide Compounds only Slight solvable
Salt & ionic are interchangeable.
Describing Reactions
Molecular Equation (1)
Complete ioniz equations
Net ionic equation (2)
@ eg. 2k++(v242++Bu2++2N2=> BrCv24+2k+2N2=
Goliel

4	pectator	rons

ions which not participate in reaction.

Net ionic equation.

Only include the component that directly involved in the reaction.

eg. Baz+ + Cro42 -> Bacroy

Reaction which form Worter.

Acids and Bases.

or alkalis

Bused

Substance produce hydroxide ions (OH-) in water.

Acid + Based

Always form worter.

H++0H->H20

ey. Hel + Nao1-1 > HzO+ Nacl

Salt

Reaction between metal and nonmetal

involve the transfer of one or more electrons from the metal to the nonmetal, form ioniz compand

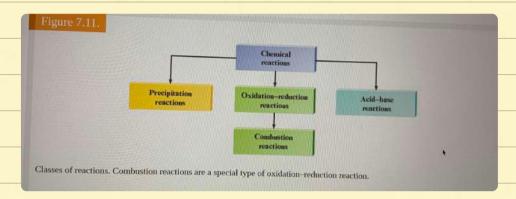
this property is called: Oxidation-Reduction reaction
2g. 2Mg+02→2Mg, D
Net change 0 0 2+ 2-
kind of Reaction
Double-displacement Reaction
Association Reversed.
eg. K2(r04+Ba(N)z)z -> Ba(r04+)KNOz
AB+CD->AD+CB
Acid Based reaction
include Ht ions and end up with produce water.
eg. HC1+ kaH> H2O+KC
Oxidation-Reduction Reaction.
process that electron transfer
· Not only metal + Nonmetal
eg. 2n+2H'cl -) H2+ 2n cl2.
$\frac{1}{1}$ $\frac{1}$
Single Replacement Reaction
A+BC->B+A-C

Combustion Reaction

produe flame

eg. CH4+202> CO2 +2H2O.

Also oxidation - Reduction



Synthesis (Combination Reaction.

A+B=AB

eg. $2Hz+0z\rightarrow 2HzO$ syn+oxi+comb $(+0z\rightarrow COz$ syn+oxi+comb $Nz+0z\rightarrow 2NO$ syn+oxi

Decorposition Reaction.

AB > A+B

