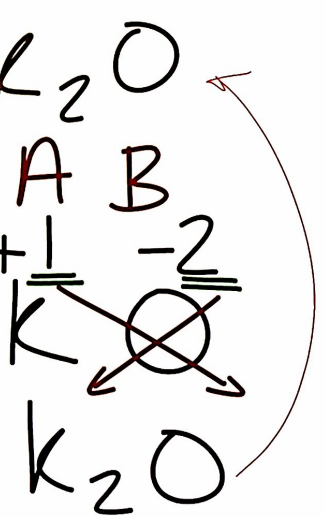
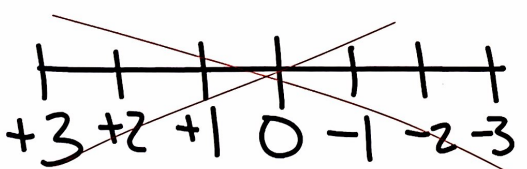
2. $4\,K + O_2 \rightarrow 2\,K_2O$

A B

K : +1 (1A)

O : −2 (6A)





+ : lose e^- − : gain e^-

1A (+1)
2A (−2)
3A (−3)
4A (+4)
5A (−3)
6A (−2)
7A (−1)
8A (0)

7. $\underset{A}{4\,Mn^{3+}} + \underset{B}{3\,O_2} \longrightarrow 2\,Mn_2O_3$

A : Mn : +3 (trans.)

B : O : −2 (6A)

A B

+3 −2

Mn_2O_3

+3 +2 +1 0 −1 −2 −3

+ : lose e^- − : gain e^-

1A (+1)
2A (−2)
3A (−3)
4A (+4)
5A (−3)
6A (−2)
7A (−1)
8A (0)

6. $\underset{A\ B}{2\ Cu_3N} \longrightarrow 6\ \underset{A}{Cu} + \underline{\quad}\ \underset{\text{Check if diatomic!}}{\underline{B}}{}_2$

AB: Cu_3N

A: Cu

B: N

Diatomic Elements

H_2
F_2
Cl_2
Br_2
I_2
N_2
O_2

Ionization : Form Ions (+/-) in solvent

$CaCl_2$ —(Water / Dissolves In?)→ Ca^{2+} + $2\,Cl^{1-}$

A B — A — B

Ca : +2 (2A)

Cl : −1 (7A)

Polyatomic Ions

Use Chart

ClO_3^{1-} : −1

SO_4^{2-} : −2

1A	+1
2A	+2
3A	+3
4A	+4
5A	−3
6A	−2
7A	−1

Ionization

$\_\_ NaClO_3 \xrightarrow[\text{Dissolved In?}]{\text{Water}} \_\_ Na^{1+} + \_\_ ClO_3^{1-}$

A (+) B (−)

Na: +1 ClO_3: −1

$\_\_ Li + \_\_ Na^{1+} + \_\_ ClO_3^{1-} \longrightarrow$

(Metal, A) (+, B) (−, C)

Single Replace.

Li replaces Na $\longrightarrow \_\_ LiClO_3 + \_\_ Na^{+}$

A C B

$$\underset{A}{\_\_Li} + \underset{B}{\_\_Na}\underbrace{ClO_3}_{C} \longrightarrow \underset{AC}{\_\_LiClO_3} + \underset{B}{\_\_Na}$$

Li : +1 (A) Na : +1 (B) ClO3 : −1 (C) ← Don't need B's Charge!

$Li^{+1}(ClO_3)^{-1}$

$Li_1(ClO_3)_1$

$LiClO_3$

Decomp: $NaClO_3 \rightarrow Na^{1+} + ClO_3^{1-}$

Combo: $Li + ClO_3^{1-} \rightarrow LiClO_3$

$$\underset{A}{4\,Al} + \underset{B\ C}{3\,Pb(SO_4)_2} \longrightarrow \underset{AC}{2\,Al_2(SO_4)_3} + \underset{B}{3\,Pb}$$

A : Al- +3 (3A)

C : SO_4^{2-} : −2 (chart)

+3 −2

$Al_2(SO_4)_3$

$Al_2(SO_4)_3$

1A (+1)
2A (+2)
3A (+3)
4A (+4)
5A (−3)
6A (−2)
7A (−1)
8A (0)