1. Consider the unbalanced equations of several redox reactions shown below. A redox reaction is composed of two different types reactions taking place simultaneously., the oxidation and the reduction reactions. For each redox reaction below identify the :
- atom oxidized,
- atom reduced,
- oxidizing agent (0xidant),
- reducing agent (Reductant),
- oxidation half reaction,
- reduction half reaction,
The first is done for you.

a. $Mg + HCl \rightarrow MgCl_2 + H_2$
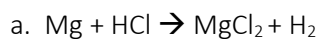
- atom oxidized = Mg from 0 to +2
- atom reduced = H from +1 to 0
- oxidizing agent = HCl metal
- reducing agent = Mg metal
- oxidation half reaction = Mg $\rightarrow$ Mg$^{2+}$ 2e
- reduction half reaction = 2H$^+$ + 2e $\rightarrow$ H$_2$
- overall balanced equation = Mg+2H$^+$ $\rightarrow$ Mg$^{2+}$ +H$_2$

b. $Fe + V_2O_3 \rightarrow Fe_2O_3 + VO$

c. $KMnO_4 + KNO_2 + H_2SO_4 \rightarrow MnSO_4 + H_2O + KNO_3 + K_2SO_4$

d. $K_2Cr_2O_7 + SnCl_2 + HCl \rightarrow CrCl_3 + SnCl_4 + KCl + H_2O$

e. $K_2Cr_2O_7 + H_2O + S \rightarrow SO_2 + Cr_2O_3 Lo_3$

f. $KClO_3 + C_{12}H_{22}O_{11} \rightarrow KCl + H_2O + CO_2$

g. $H_2C_2O_4 + K_2MnO_4 \rightarrow CO_2 + K_2O + Mn_2O_3 + H_2O$