CHEMISTRY

Balancing Chemical equations IV

BALANCING CHEMICAL EQUATIONS

The equations in this lesson are just further practice. I have included two reactions that you may have difficulty with, only to show you that all equations are not easy to balance. Also, you will find that some of these equations contain radicals with parentheses... you should already understand what this means, but let's do one example:

$$Ba(NO_3)_2 + Na_2S0_4 \text{ -----> } BaS0_4 + NaN0_3$$

On both sides you can see that we have one Ba. On the left side you can see that we have two N's while we only have one on the right. We ca
n fix that by putting a coefficient of "2"in front of $NaNO_3$.

$$Ba(NO_3)_2 + Na_2S0_4 \text{ -----> } BaS0_4 + \mathit{2}\ NaN0_3$$

We now have two N's on the left (remember... the subscript of 2 outside of the parentheses doubles everything inside) and two N's on the product side. You can see that we also have two Na's on each side. Finally, you can see that there are ten O's on each side of the equation. The above reaction is thus balanced.

STUDENT PRACTICE

1. Balance each of the following reactions:

$KOH + HCI \text{ -----> } KCI + H_20$

$CuO + NH_3 \text{ -----> } N_2 + H_20 + Cu$

$FeS + 0_2 \text{ -----> } Fe_20_3 + SO_2$

$H_2S0_4 + KMn0_4 + KCI \text{ -----> } MnS0_4 + K_2SO_4 + Cl_2 + H_20$

$Al_2(S0_4)_3 + CaCl_2 \text{ -----> } AICl_3 + CaS0_4$

$AI(OH)_3 \text{ -----> } Al_20_3 + H_20$