STOICHIOMETRY involving reactions: Weight vs. Number (The Art of Counting Without Counting)

1. Start with balanced equation.
2. Mass to Moles (consult Periodic Table). Add up atomic weights to find mass of one mole
3. Use Balanced Equation to adjust moles.
4. Moles back to Mass (consult Periodic Table). Add up atomic weights to find mass of one mole.

We need 10 kg (22 lbs) of hydrogen peroxide What mass of water and oxygen is needed?

Count in Moles					
	__H_2O	+	__ O_2	-->	__ H_2O_2
Mass in grams					**10,000g**

Start H_2O_2 End H_2O_2

10,000 g	1 mole	=	moles	Count by turning mass given into moles
	_____ g			

Start H_2O_2 End H_2O

mol	__ moles H_2O	=	moles	Count others by using the mole count of given
	__ moles H_2O_2			

Start H_2O End H_2O

mol		=	grams	Convert those moles into grams
	1 mole			

Start H_2O_2 End O_2

mol	__ moles O_2	=	moles	Count others by using the mole count of given
	__ moles H_2O_2			

Start O_2 End O_2

mol		=	grams	Convert those moles into grams
	1 mole			

100g of potassium perchlorate will decompose. How many grams of oxygen are produced?

Count in Moles					
	__$KClO_3$	->	__KCl	+	__O_2
Mass in grams	**100g**				

Start $KClO_3$ End $KClO_3$

100 g		=	moles

Start $KClO_3$ End O_2

mol	__ moles O_2	=	moles
	__ moles $KClO_3$		

Start O_2 End O_2

mol		=	grams