**YES**

**COMBUSTION**

**Reaction**

 **Something + O2**

**CH4 + 2O2 CO2 + 2H2O**

"If hydrocarbon, always make carbon dioxide

and water"

**Are there more REACTANT molecules than products?**

**Look at your reaction**

**YES**

**SYNTHESIS**

**Reaction**

**A+B AB**

**O2 + CO2 CO3**

"Two into one"

**NO**

 **Are there more PRODUCT molecules than reactant molecules?**

**NO**

**DECOMPOSITION**

**Reaction**

**XY X + Y**

**CaCO3 CaO + CO2**

"One into two"

Are your **REACTANTS something reacting with O2 gas?**

**YES**

**NO**

**Is there an ELEMENT BY ITSELF that swaps places with an atom in a compound?**

**YES**

**SINGLE REPLACEMENT**

**Reaction**

**A + BC AC + B**

**Al + Pb(NO3)2 Al(NO3)2 + Pb**

"Swap cation for cation, **or**

anion for anion

**NO**

**Do you switch cations and anions between**

**TWO COMPOUNDS?**

**YES**

**DOUBLE REPLACEMENT**

**Reaction**

**AB + CD  AD + CB**

**AgNO3 + KCl AgCl + KNO3**

"Switch cations **and** anions"

N-23

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