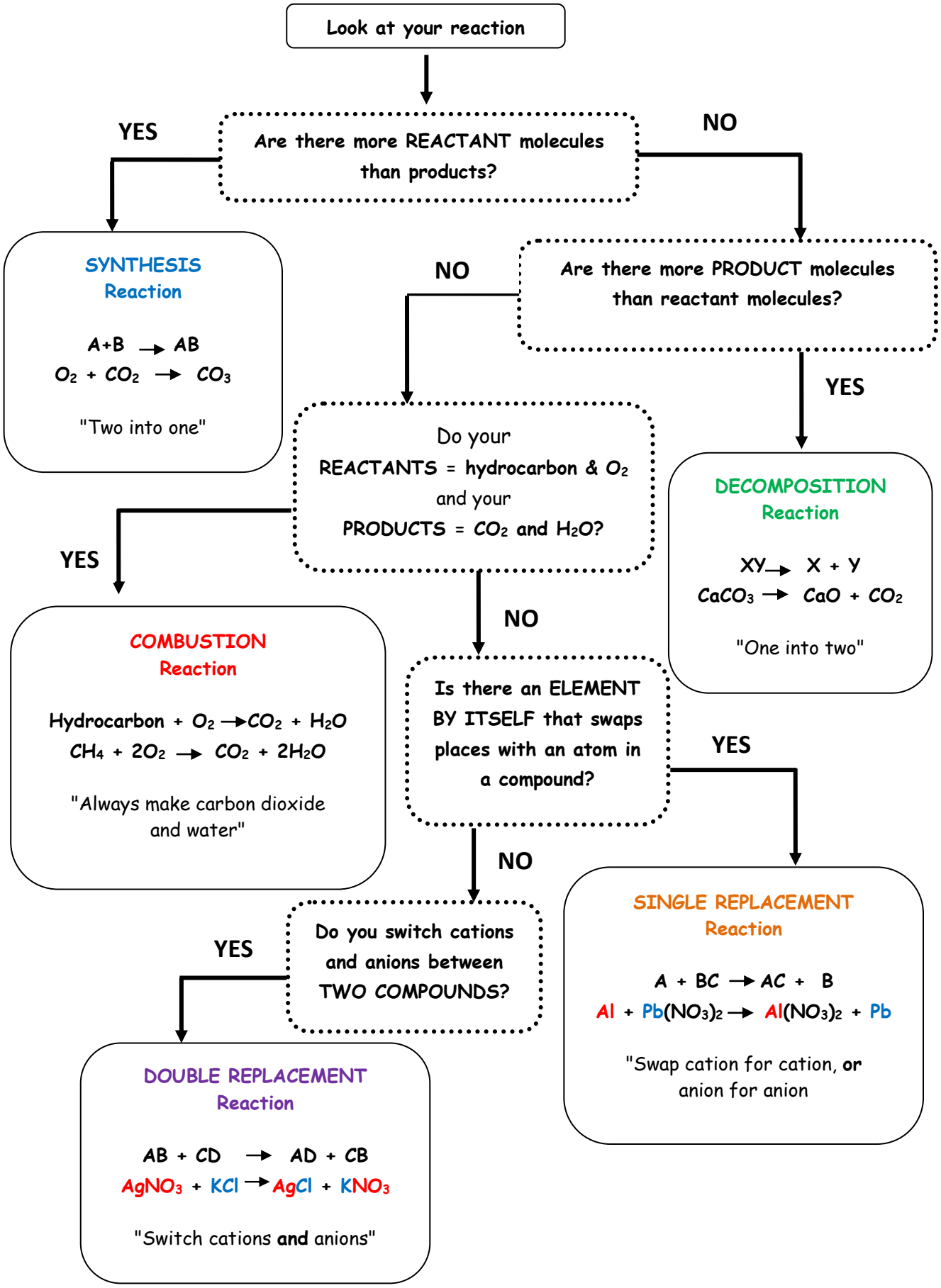
Look at your reaction
Are there more REACTANT molecules than products?
YES
NO
SYNTHESIS Reaction
A+B → AB
O2 + CO2 → CO3
"Two into one"
Are there more PRODUCT molecules than reactant molecules?
NO
YES
DECOMPOSITION Reaction
XY → X + Y
CaCO3 → CaO + CO2
"One into two"
Do your REACTANTS = hydrocarbon & O2 and your PRODUCTS = CO2 and H2O?
YES
NO
COMBUSTION Reaction
Hydrocarbon + O2 → CO2 + H2O
CH4 + 2O2 → CO2 + 2H2O
"Always make carbon dioxide and water"
Is there an ELEMENT BY ITSELF that swaps places with an atom in a compound?
YES
NO
SINGLE REPLACEMENT Reaction
A + BC → AC + B
Al + Pb(NO3)2 → Al(NO3)2 + Pb
"Swap cation for cation, or anion for anion
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"