



Balancing Chemical Equations

Matter Cannot Be Created Nor Destroyed

1. **Law of Conservation of Mass** –atoms going into the reaction (reactants) must equal atoms coming out of the reaction (products)



Q: How many carbon on the left?

A: 1 atom of carbon

Q: How many carbon on the right?

A: 1 atom of carbon

Q: How many oxygen on the left?

A: 2 atoms of oxygen

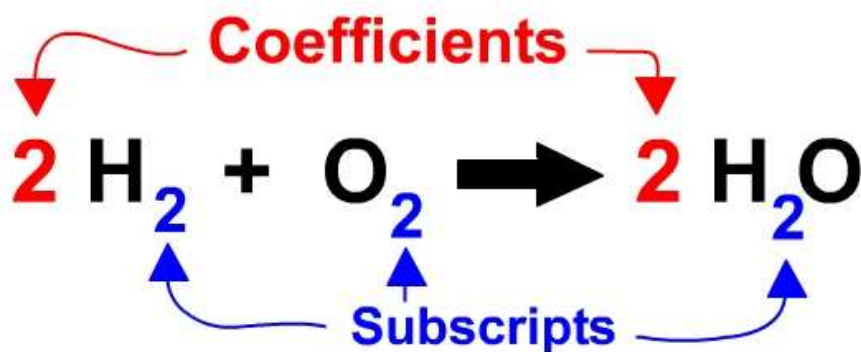
Q: How many oxygen on the right?

A: 2 atoms of oxygen

“This chemical equation is balanced!”

2. To balance a chemical equation only add or change *coefficients*!

*“Thou shalt NOT change *subscripts* when balancing chemical equations!”*



Practice Problems: Balance Equations (add or Δ coefficients only)



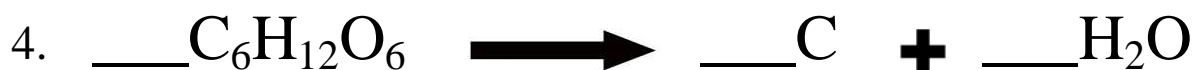
Type of reaction is _____



Type of reaction is _____



Type of reaction is _____

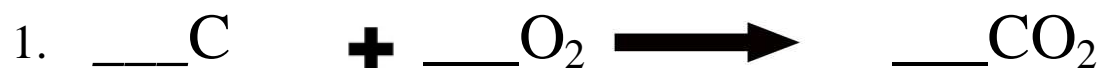


Type of reaction is _____



Type of reaction is _____

Practice Problems: Answers



"Already Balanced"

Type of reaction Synthesis Reaction



Type of reaction Single Displacements(replacement) Reaction



Type of reaction Synthesis Reaction



Type of reaction Decomposition Reaction



"Already Balanced"

Type of Reaction Double Displacement (Replacement) Reaction