

Chemical Reactions and Equations

- In a chemical reaction, at least one of the following will occur:
- Change in state
- Change in colour
- Evolution of a gas
- Change in temperature

- **Balanced chemical equation**

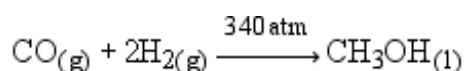
Reactants → Products

LHS RHS

Total number of atoms on the LHS = Total number of atoms on the RHS

- **How to balance an equation**

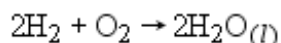
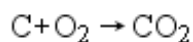
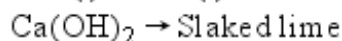
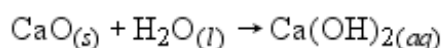
- Write reactants and products
 - Balance the max. number of a particular atom on both sides
 - Balance other atoms
 - A complete balanced equation should look like



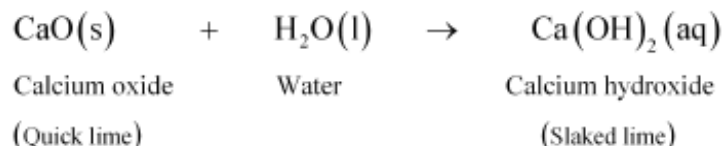
Types of reactions

- **Combination reaction**

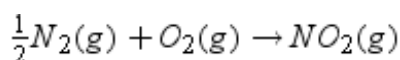
- Two or more reactants combine to form one single product.
 - **Examples**



- **Exothermic reaction** – Heat gets released in the reaction. Most combination reactions are exothermic. For example,



- **Endothermic reaction** – Heat is absorbed in the reaction. Very few combination reactions are endothermic. For example,



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