



Cycle 7 Chemistry 2 Lesson 4

AGENDA – Using Oxidation Numbers to Identify Oxidizing and Reducing Agents

Warmup: Calculate the oxidation numbers of all atoms in the compound $\text{Ca}(\text{OH})_2$

Vocab: Oxidizing agent, Reducing agent

Classwork: Redox Reaction WS – identify oxidizing and reducing agents

Homework: Redox Reaction WS #2





Half-Reactions, *continued* Identifying Agents in Redox Reactions

- **Oxidizing Agents.**
 - The oxidizing agent contains an atom which is reduced.
 - It is called this because it oxidizes other substances
- **Reducing agents.**
 - The reducing agent contains an atom which is oxidized.
 - It is called this because it reduces other substances



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Resources





Example – Homework Type

Identifying Agents in Redox Reactions

- $4 \text{NH}_3 + 5 \text{O}_2 \rightarrow 4 \text{NO} + 6 \text{H}_2\text{O}$
- $\text{N}^{-3}\text{H}^{+1} \quad \text{O}^0 \quad \text{N}^{+2}\text{O}^{-2} \quad \text{H}^{+1}\text{O}^{-2}$
- N is oxidized, $-3 \rightarrow +2$. Therefore NH_3 is the reducing agent
- O is reduced, $0 \rightarrow -2$. Therefore O_2 is the oxidizing agent
- You can say that “ NH_3 reduces O_2 ” or that “ O_2 oxidizes NH_3 ”. Both are correct!

