

The background features a dark blue gradient with faint, light blue circular patterns and a scale. The scale is a semi-circular arc on the left side, with markings from 140 to 260 in increments of 10. Several concentric circles and dashed lines are scattered across the background, some with arrows indicating a clockwise direction.

# OXIDATION AND REDUCTION REACTION

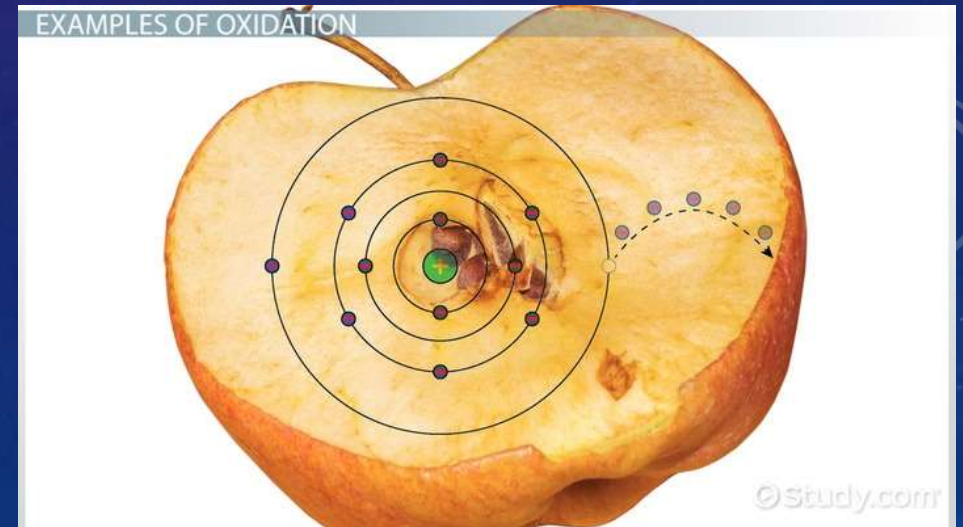
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## **Oxidation:**

It is defined as the addition of oxygen to the substance or the removal of hydrogen from the substance.

( In electronic terms loss of electrons is called oxidation. )

For example;

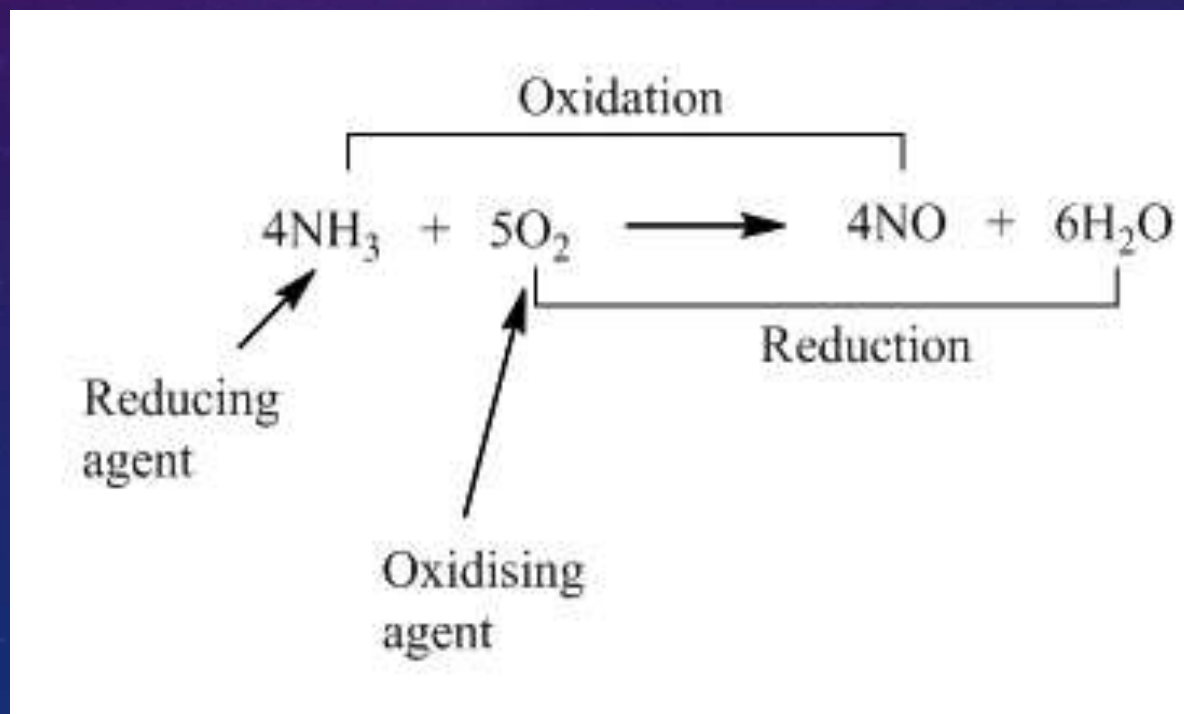




## Oxidizing agent

The substances which can add oxygen to other compounds are known as oxidising agents.

Eg:  $\text{O}_2$ ,  $\text{O}_3$ ,  $\text{HNO}_3$ ,  $\text{KMnO}_4$

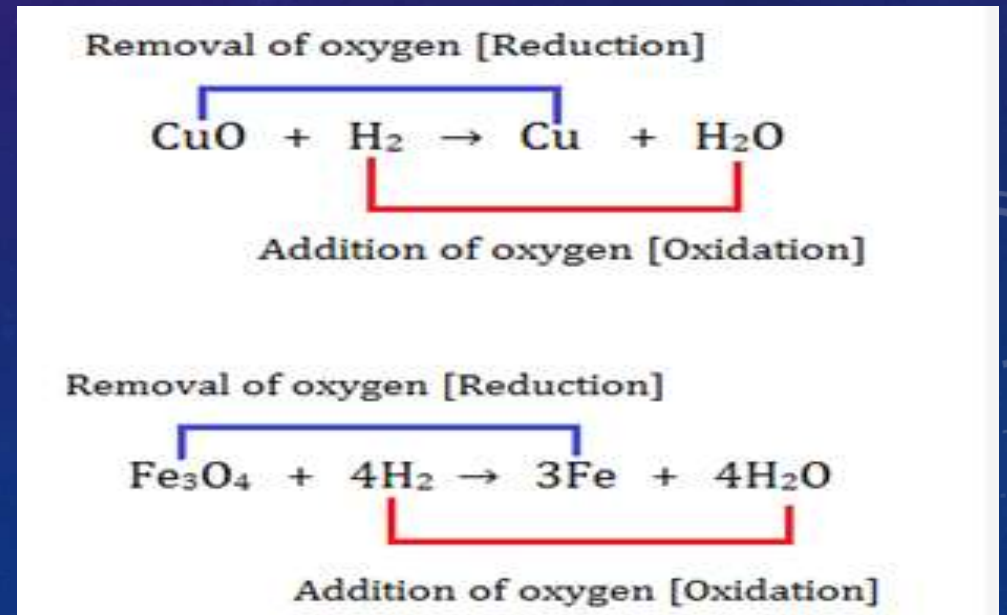
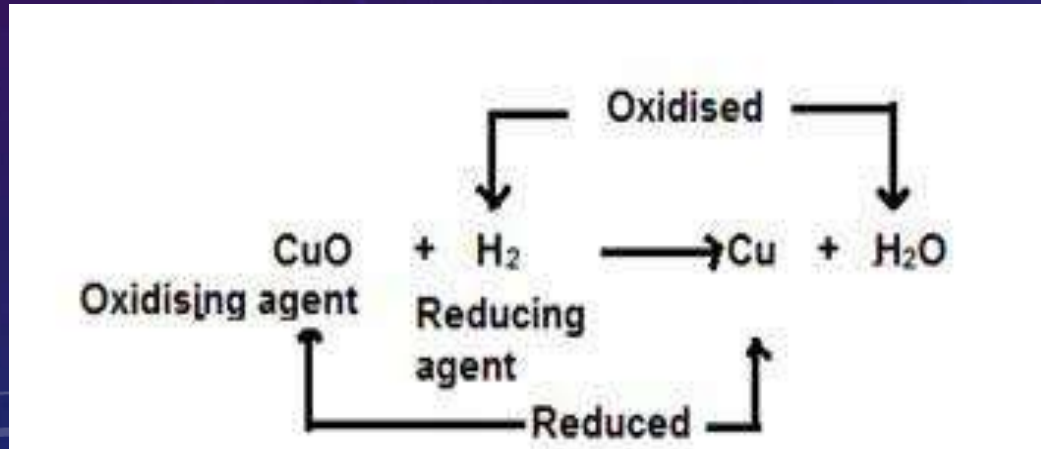




# Reduction reactions

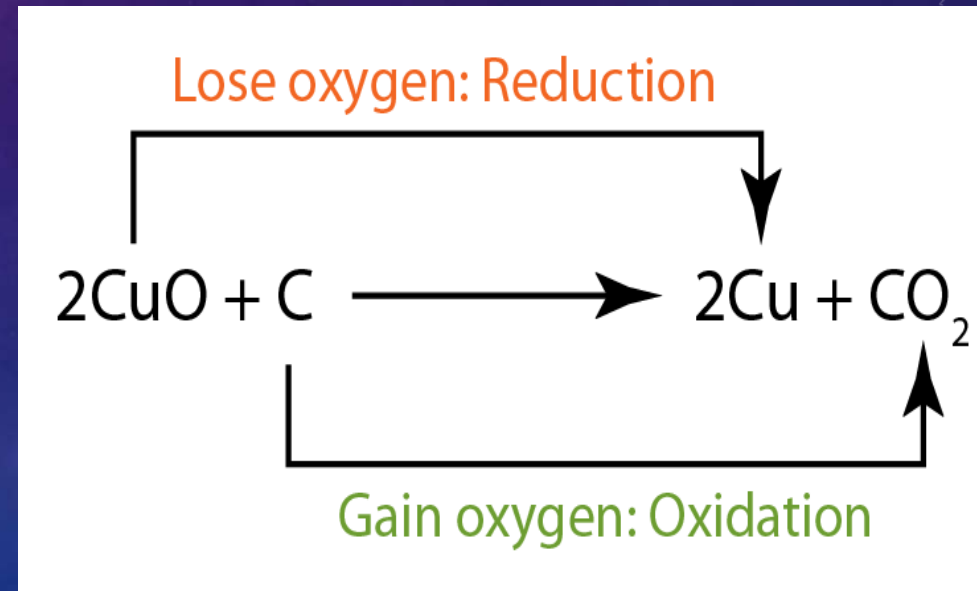
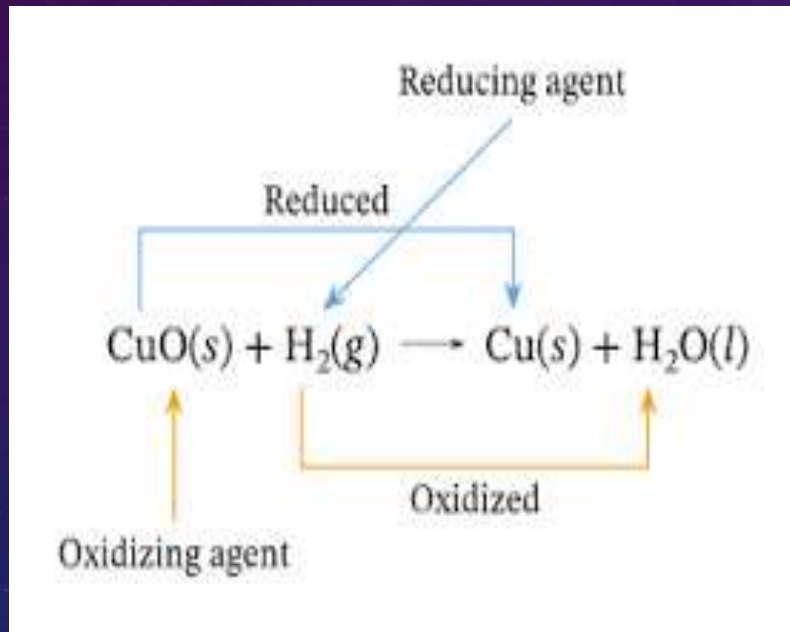
Those reactions in which hydrogen combines with a substance or oxygen is removed from a substance, are known as reduction reactions.

For eg:



## Reducing agent

Reducing agent is a substance that provides Hydrogen or removes Oxygen from other compound.



Oxidising agents	Reducing agents
Bromine ( $\text{Br}_2$ )	Carbon (C)
Chlorine ( $\text{Cl}_2$ )	Carbon monoxide (CO)
Concentrated sulphuric acid ( $\text{H}_2\text{SO}_4$ )	Hydrogen ( $\text{H}_2$ )
Nitric acid ( $\text{HNO}_3$ )	Hydrogen sulphide ( $\text{H}_2\text{S}$ )
Oxygen ( $\text{O}_2$ )	Metals
Potassium manganate(VII) ( $\text{KMnO}_4$ )	Potassium iodide (KI)
Potassium dichromate(VI) ( $\text{K}_2\text{Cr}_2\text{O}_7$ )	Sulphur dioxide ( $\text{SO}_2$ )
Hydrogen peroxide ( $\text{H}_2\text{O}_2$ )	Ammonia ( $\text{NH}_3$ )