

Auburn Mountainview

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7/29/2026

Oxidation-Reduction Chemistry

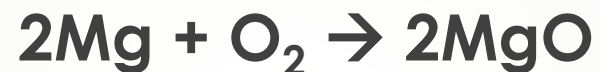


By end of this unit I can...

- **A.1 Identify a reaction as an oxidation-reduction based on the change in oxidation numbers of reacting substances.**
- **A.2 Create and/or evaluate a claim about which reacting species is oxidized or reduced in an oxidation-reduction reaction.**
- **B.1 Predict whether a redox reaction will occur between two reactants using an activity series.**
- **B.2 Create and/or evaluate an activity series from experimental measurements.**
- **C.1 Create and/or evaluate models of redox reactions.**

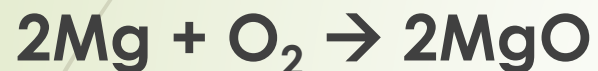
Closer look at Reactions

► What do these have in common:

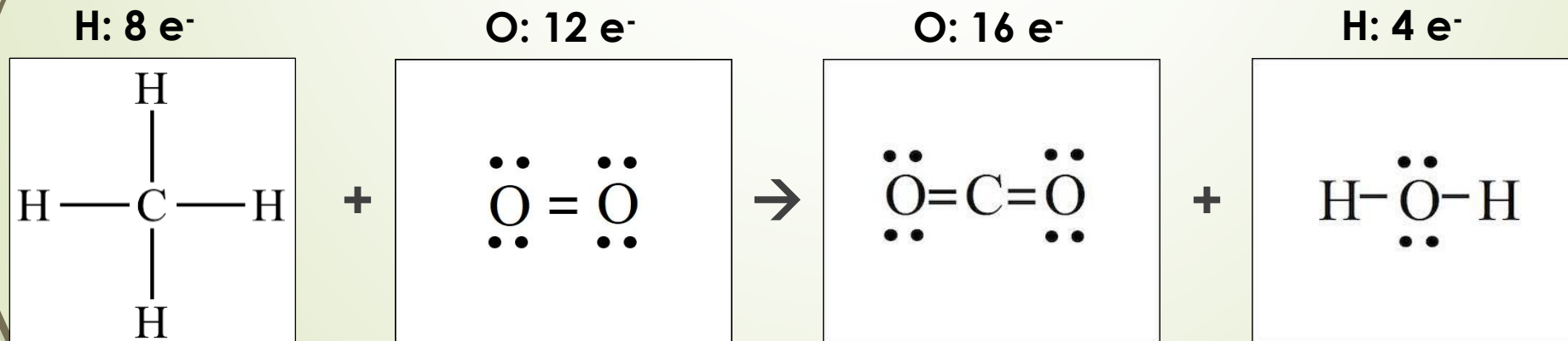


➤ Closer look at Reactions

- All result in a transfer of electrons



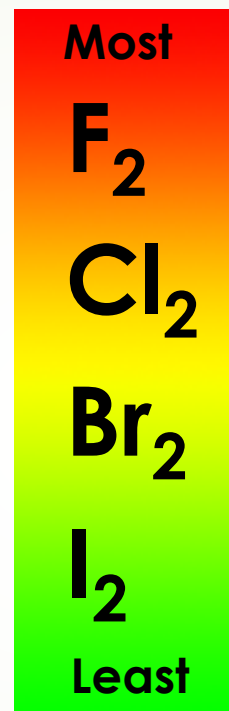
Ummm



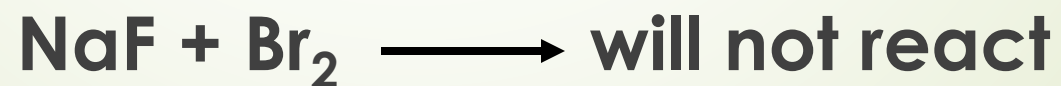
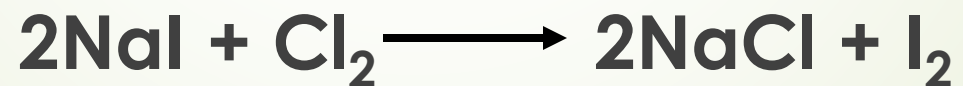
Metal Reactivity: Single Replacement

- A metal will replace a metal in an ionic compound if it is more reactive.
 - A list of metals can be found on the ion chart.
 - Back, Top Left.
- Ex: $\text{Na} + \text{HgNO}_3 \rightarrow$ Will it React?
 - Na is higher on the series so yes it will.
 - Answer: $\text{Na} + \text{HgNO}_3 \rightarrow \text{Hg} + \text{NaNO}_3$
- Ex: $\text{Ni} + \text{CaO} \rightarrow$ Will it React?
 - Ni is lower on the series so no reaction.
 - Answer: Won't React (or $\rightarrow \text{X}$)

Halogen Reactivity Series



Ex:



Reduction Oxidation



- Redox: Looking at a typical SR reaction an ionic metal became neutral.
 - Reduction: any atom, molecule, ion that gains e^- .
 - Oxidation: any atom, molecule, ion that loses e^- .



- Broken down:

