

20 • Electrochemistry

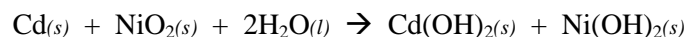
20.1 - 20.2 REDOX Reactions and Balancing HR

Quick Refresher: Write the oxidation States for the following compounds/ions

H_3O^+	$\text{C}_2\text{O}_4^{2-}$
CO_3^{2-}	ClO^-
NO_3^-	LiF

REDOX in Reactions: determine which is oxidized/reduced

For example, the following is used in a nickel-cadmium rechargeable battery



The reducing agent is _____

The oxidizing agent is _____

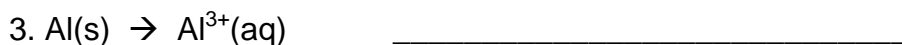
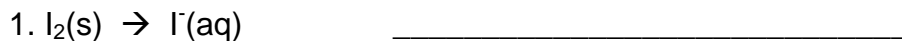
Which one get's reduced? _____

Which one get's oxidized? _____

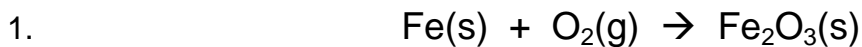
Balancing REDOX Equations – 4 Step Process

- Write the Reduction and Oxidation Equations (if not already written for you)
 - New Step; Include subscripts for bimolecular elements only Ex: I_2 , F_2 , N_2
- Balance the Half – Reactions
- Add them together and write the final equation
- Check to verify conservation of mass and charge

Directions: Balance the following Half-Reactions (already in Half-Reaction format)



Directions: Write the balanced Half-Reactions and final equation for the following:



Balanced Oxidation Reaction: _____

Balanced Reduction Reaction: _____

Added Equation: _____

Final Equation: _____



Balanced Oxidation Reaction: _____

Balanced Reduction Reaction: _____

Added Equation: _____

Final Equation: _____

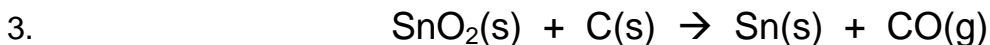


Balanced Oxidation Reaction: _____

Balanced Reduction Reaction: _____

Added Equation: _____

Final Equation: _____

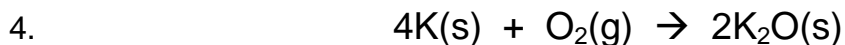


Balanced Oxidation Reaction: _____

Balanced Reduction Reaction: _____

Added Equation: _____

Final Equation: _____



Balanced Oxidation Reaction: _____

Balanced Reduction Reaction: _____

Added Equation: _____

Final Equation: _____

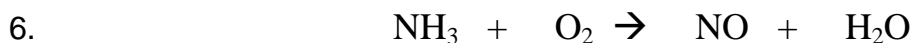


Balanced Oxidation Reaction: _____

Balanced Reduction Reaction: _____

Added Equation: _____

Final Equation: _____



Balanced Oxidation Reaction: _____

Balanced Reduction Reaction: _____

Added Equation: _____

Final Equation: _____



Balanced Oxidation Reaction: _____

Balanced Reduction Reaction: _____

Added Equation: _____

Final Equation: _____