

# Redox and Electrochemistry

Text	Unit Objectives:
20.1	1. Identify a particle in a redox reaction as being oxidized, reduced, and as an oxidizing agent or reducing agent.
20.2	2. Determine the oxidation number (oxidation state) for all atoms in a molecule or ion.
20.3	3. You should be able to look at a reaction and write the two half reactions that make it.
21.1	4. Define and know the importance of a half cell, and be able to use the standard electrode potential to determine if the reaction is likely to occur.
21.3	5. Define and know the importance of a chemical cell and be able to use standard electrode potential (table N) to determine if the reaction is likely to occur.
21.2	6. List the types of electrochemical cells and be able to identify and give the importance of the following parts in a Voltaic cell. <ul style="list-style-type: none"> <li>○ Zinc electrode (anode)</li> <li>○ Copper electrode (cathode)</li> <li>○ Salt bridge</li> <li>○ Salt solutions</li> <li>○ Wire</li> </ul>
21.3	7. Describe electrolytic cells. Understand how each of the following types are used. <ul style="list-style-type: none"> <li>○ Electroplating</li> <li>○ Electrolysis of fused compounds</li> <li>○ Electrolysis of salt solutions</li> <li>○ Electrolysis of water</li> </ul>
20.3	8. Be able to balance complex redox equations.

### Essential Vocabulary

Anode, Cathode, Chemical Cell, Electrochemical Cell, Electrode, Electrolysis, Electrolytic Cell, Electroplating, Half-Cell, Half-Reaction, Oxidation Number, Oxidation Reduction Reaction, Oxidizing Agent, Redox, Reducing Agent, Reduction Potential, Salt Bridge, Voltaic Cell

Following successful completion of this unit we will begin review!! Be prepared to work hard throughout the remainder of the year to all but guarantee your success.