

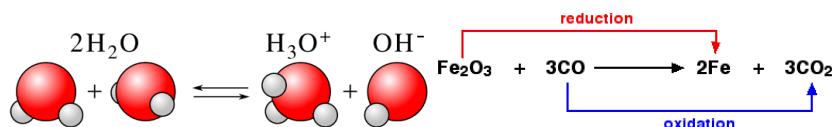
Overview

Skills to Develop

- Categorize the various types of reactions analyzed as acid-base or redox

So far we've seen a variety of types of reaction. This section is intended to help you fit all the pieces together. You've seen combination reactions and decomposition reactions. Sometimes these are the same reactions, just going in opposite directions. Likewise, dissolution and precipitation are opposite processes.

Many chemists think of reactions as falling into 2 main categories: acid-base type reactions and redox reactions. In an **acid-base type reaction**, an under-populated nucleus makes a bond with an over-populated nucleus, but the electrons don't change their primary loyalty. (The electrons from the over-populated nucleus do appreciate the better benefits they get from the under-populated nucleus, which has more pension money than it can spend on its own population.) In the classic acid-base reaction, the electrons on water really like oxygen as a home, but they are feeling a little crowded and poor; alliance with a hydrogen ion provides lots of money to make them happier, and a nice convenient vacation destination. In contrast, a **redox reaction** is any reaction in which electrons change their primary loyalties. Bonds between nuclei may change or not, but oxidation numbers do change. Try going through all the examples and deciding which category they fit and why.



Example of the classic acid-base reaction on the left and a redox reaction on the right.

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