

CHAPTER OVERVIEW

5: Chemical Reactions

In [Chapter 2](#), we learned that chemical changes result in the transformation of one chemical substance into a different substance having a new set of chemical and physical properties. The transformation of one substance into another is called a *chemical reaction* and is described using a *chemical equation*. In this chapter we will learn how to write and balance simple chemical equations. We will learn the basic *types* of chemical reactions and we will learn how to predict the products that are likely to be formed when these reactions occur. We will examine a special type of chemical reaction in which one of the products has low solubility in water and *precipitates* from solution. Understanding the basic rules of solubility is simple and again will allow us to predict when this type of reaction is likely to be observed. Finally, we will address the *energetics* of chemical reactions, laying a fundamental background for the study of reaction rates and equilibrium later in the course.

[5.1: Chemical Changes and Chemical Reactions](#)

[5.2: Chemical Equations](#)

[5.3: Balancing Chemical Equations](#)

[5.4: Classifying Chemical Reactions](#)

[5.5: Oxidation and Reduction Reactions](#)

[5.6: Predicting Products from Chemical Reactions](#)

[5.7: Predicting Solubility Trends](#)

[5.8: The Energetics of Chemical Reactions](#)

[5.S: Chemical Reactions \(Summary\)](#)

This page titled [5: Chemical Reactions](#) is shared under a [CC BY-SA 4.0](#) license and was authored, remixed, and/or curated by [Paul R. Young](#) ([ChemistryOnline.com](#)) via [source content](#) that was edited to the style and standards of the LibreTexts platform.