Precipitation Reactions and Ionic Equations – Study Guide

*Sections 4.1 and 4.2 in OpenStax*

**Ionic Equations (Section 4.1)**

The molecular equation shows \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

If the compound is soluble in water, the compound will actually be present as ions.

***Watch the video tutorial on*** [Ionic Equations](https://www.youtube.com/watch?v=hRoFbybPEOQ&feature=youtu.be)

*Practice Problem*: Write a **complete ionic equation** for the following molecular equation. Use the solubility rules in table 4.1 to write in the missing phases.

2 K3PO4 + 3 FeBr2 🠢 6 KBr + Fe3(PO4)2

Spectator ions are not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Cross out spectator ions in your equation above and then write the **net ionic equation** below.

**Precipitation Reactions (Section 4.6)**

Precipitation reactions are ones in which \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Using the solubility rules in Table 4.1, circle any of the following salts that are soluble in water.

BaSO4 Na3PO4 AgCl KOH CuNO3

Show how the cations and anions would swap in a double displacement reaction between AgNO3 and BaCl2. Write an (s) next to any solid that forms as a precipitate.

**End of Chapter 4 Practice Problems**

#9, 11

For detailed solutions to these problems, go to the [OpenStax website](https://openstaxcollege.org/textbooks/chemistry/resources) and download the “Student Answer and Solution Guide.”