

Reading Guide

for the Physical Changes and Mixtures unit

Chemistry Chapter 7: Solutions

pp. 129–131. This section defines **solutions**, a key class of mixture. The key point for our purposes is stated on page 131: “dissolving is a chemical reaction.” You may have been told before that dissolving is a physical change rather than a chemical change. This distinction depends entirely on your definitions of chemical and physical changes. However, from a chemist’s point of view, it makes much more sense to think of dissolving as a chemical process!

Don’t worry about the bottom of page 131, which discusses energy changes, using words like “endothermic” and “enthalpy”.

p. 132. Here the book defines two types of mixtures that are not solutions: **suspensions** and **emulsions**. “Suspension” is defined differently here than in class, and we don’t discuss emulsions specifically in class. Stick with our in-class usage.

pp. 133–134. The important concept of concentration is introduced. Part of the discussion requires an understanding of the term “**mole**”. This is explained earlier in the book, on page 72. So go read page 72, and then come back here. Then you should be able to answer these questions:

- What is **molarity**?
- What does the symbol “M” mean?

pp. 135–140. You should read this section, but we won’t rely heavily on any of the terms or concepts. It is stuff that is nice to know.

- What factors affect the solubility of a chemical?
- How is the freezing point of a solution different from the freezing point of the pure solvent?
- How is the boiling point of a solution different from the freezing point of the pure solvent?

Wrap-Up

Make a concept map of the material in this reading.