

## Problem Set 8: Classification of matter

### Major Concepts

- Classify matter as a substance or a mixture
- Distinguish between mixtures and pure substances
- Distinguish between homogeneous and heterogeneous
- Describe two ways components of mixtures can be separated
- Students memorize elements on the periodic table

### Reading

Chapter 2.5 & 2.6

Using one paragraph per section, summarize the two sections you just read.

### Reading Guide

Complete Reading Guide 8

### Lab

Complete Lab 8: Physical and Chemical Changes

### Lecture Notes

Print and read *Lecture 8* from TheChemBook; Combine your notes from class with the notes on TheChemBook. Use the Cornell Notes Strategy to review your notes each night (5 min.).

### Vocabulary

Define each vocabulary word.

Alloy (p. 35)	Heterogeneous (p. 38)	Pure substances (p. 37)
Distillation (p. 39)	Homogeneous (p. 37)	Solutions (p. 37)
Filtration (p. 40)	Mixture (p. 34)	

### Questions and Problems

1. Identify the following as mixtures or pure substances
  - a. Milk
  - b. Paper
  - c. Teaspoon of sugar
  - d. Teaspoon of sugar dissolved in water
  - e. Steel
2. Classify the following mixtures as homogeneous or heterogeneous
  - a. Vanilla ice cream
  - b. "rocky road" ice cream
  - c. Italian salad dressing
  - d. Kitty litter
3. Are all physical changes accompanied by chemical changes? Are all chemical changes accompanied by physical changes? Explain.
4. Describe how the process of *distillation* could be used to separate a solution into its component substances. Give an example.