

Module 4, Part 1

Mark Peever
mpeever@gmail.com

October 3, 2025

Objectives

0 minutes

Refer to Module 4 Notes.pdf.

By the end of this class, the students should be able to...

- describe Mixtures vs pure substances
- differentiate between homogeneous and heterogeneous mixtures
- differentiate between Chemical and Physical changes
- describe Phase changes (solid \rightleftharpoons liquid \rightleftharpoons gas)

Welcome & Devotion

5 minutes

- have one student read Psalm 107:23–32

Quiz

25 minutes

- give students 15 minutes to complete the Quiz
- go over quiz with students so they know the correct answers

Mixtures and Pure Substances

20 minutes

- Pure substances contain only one element and/or compound
- Mixtures contain different elements and compounds
- Homogeneous mixtures are the same throughout (like a bisque)
- Heterogeneous mixtures are different throughout (like a stew)

Chemical and Physical Changes

20 minutes

- Chemical changes affect the types of atoms or molecules in a substance
- Physical changes alter a substance, but don't change what kind of thing it is
- Phase changes are purely physical (solid \rightleftharpoons liquid \rightleftharpoons gas)

Questions for me

10 minutes

Assignment

5 minutes

- Q1 Take-Home Exam!
 - due back 2025-10-10
 - needs to be proctored by a parent, with a signature
 - 90 minutes
 - closed book
 - use a calculator
 - work down the page
 - show all steps
 - include units
 - use correct significant figures