

## Module 3, Part 2

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### Objectives

0 minutes

Refer to Module 3 Notes.pdf.

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

- state and explain the Law of Conservation of Matter (Mass Conservation)
- give a succinct definition of “Element”
- give a succinct definition of “Compound”

### Welcome & Devotion

5 minutes

- have one student read Acts 17:22–32

### Law of Mass Conservation

5 minutes

- the Law of Conservation of Matter is a fundamental scientific law!
- Discuss:
  - what happens when a candle burns?
  - where does the gasoline in your tank go?
  - why does your engine oil need topping up?

### Elements

20 minutes

- (Definition) Decomposition is breaking down a substance into two or more other substances.
- (Definition) An Element is a substance that cannot be decomposed into different substances
- Elements are listed in the Periodic Table of Elements (p. 75):

- go over element name
- go over element symbol
- go over atomic mass
- go over an element's location on the table

## Compounds

40 minutes

- (Definition) A compound is a substance that can be decomposed into elements by chemical means.
- (The Law of Definite Proportions) The proportion of elements in any compound is always the same.
- (The Law of Multiple Proportions) If two elements combine to form different compounds, the ratio of masses of the second element that react with a fixed mass of the first element will be a simple, whole-number ratio.
- compounds are made up of molecules, just like elements are made up of atoms
- (Definition) A compound made of at least one metal and at least one non-metal is an Ionic Compound
- (Definition) A compound made solely of non-metal atoms is a Covalent Compound

## Questions

5 minutes

## Assignment

- Review Problems: p. 97 # 1–10 (not to be turned in)
- Practice Problems: p. 98 # 1–10 (due 2025-10-03)