Chemistry 110 - 02
Philip Hunter

- Lab Safety Quiz
- Questions
- Lavoisier
- Proust
- Dalton
- Mendeleev

For Tomorrow:
Continue to work on Homework 3
Continue to work on Lab Report
Begin to prepare for Lab C
Late 1700's

Lavoisier's
The total mass of matter stays the same in a chemical change & a physical change.
"Law of Conservation of Mass"

Proust:

- Carbon dioxide $\rightarrow$ carbon & oxygen
  - $\text{CO}_2$ 3.0g  8.0g
  
  - Carbon in every time

Oxidation:

- Different compound $\rightarrow$ carbon & oxygen
  - $\text{CO}$  3.0g  4.0g

- Water $\rightarrow$ hydrogen & oxygen
  - $\text{H}_2\text{O}$ 1.0g  8.0g
  
  - Same ratio every time

- Different compound $\rightarrow$ hydrogen & oxygen
  - $\text{H}_2\text{O}_2$ 1.0g  16.0g

"Law of Definite Proportions"
Compounds exist.
Early 1800's

Dalton

\[ N + O \]

\[ NO \quad \text{compound #1} \rightarrow 7.0\text{g} \quad 4.0\text{g} \]

\[ NO_2 \quad \text{compound #2} \rightarrow 7.0\text{g} \quad 8.0\text{g} \]

\[ NO_3 \quad \text{compound #3} \rightarrow 7.0\text{g} \quad 12.0\text{g} \]

"Law of Multiple Proportions"

Atomic Theory

* Matter is made of tiny particles. "Atoms"

* Atoms are not created/destroyed/changed into different atoms during chemical or physical changes.
M. d 1800's

Mendeleev

Li - metal
Metal:

Characteristic properties

Malleable - can shape by hammering

Conduct electricity & heat

Ductile - can draw into wires

Lustrous - shiny like metals