

Introduction for Module 8 – Gas Relationships

Textbook: [Open Stax Chemistry 2e](#)

Suggested Reading: [Chapter 9.1-9.2](#)

Learning Objectives:

- **Describe the relationship between the properties of gases: Pressure, Temperature, Volume, Moles**
- **Explain the assumptions made by assuming ideal gas behavior**
- **Calculate properties of ideal gases using various gas laws**
- **Explain the significance of the ideal gas constant, R**

Captions and Attributions:

- 1) When a sample is held at constant volume and number of moles (aka. sealed, rigid) increasing temperature by heating will result in an increase in pressure. [Figure 9.10, The effect of temperature on gas pressure](#) by [Open Stax](#) is licensed under [CC BY 4.0](#).
- 2) When ideal gas behavior is assumed, the identity of a gas has no impact on its standard molar volume - the volume mole of that gas occupies at 0 °C and 1 atm. [Figure 9.18, Regardless of its chemical identity](#) by [Open Stax](#) is licensed under [CC BY 4.0](#).



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