

CHAPTER 10 LEARNING OBJECTIVES

1. Describe the general characteristics of gases as compared to other states of matter, and list the ways in which gases are distinct.
2. Describe the assumptions made in the kinetic-molecular theory and use the theory to explain the nature of gas pressure and temperature.
3. Describe how the distribution of speeds and the average speed of gas molecules change with Temperature.
4. Describe how a barometer and manometer are used to measure pressure.
5. Use the ideal-gas equation to solve for one variable (P, V, n, or T).
6. Calculate the molar mass of a gas and the density of a gas using the ideal-gas equation.
7. Calculate the partial pressure of any gas in a mixture, given the composition of that mixture.
8. Calculate the mole fraction of a gas in a mixture, given its partial pressure and the total pressure of the system.
9. Explain the deviations shown by real gases from the relationship $PV/RT = 1$ for a mole of an ideal gas.
10. Give the conditions of P and T under which real gases most closely approximate ideal-gas Behavior.

Review the “In Closing” and “Key Terms” sections (pages 479-480).