

The Gas Laws

▶ pages 419–427
▶ 1 1/2 class session(s)

Section Objectives

- **State** Boyle's law, Charles's law, and Gay-Lussac's law.
- **Apply** the three gas laws to problems involving the pressure, temperature, and volume of a gas.

National Science Content Standards

UCP.2, UCP.3; A.1; B.2, B.4, B.6; E.2; G.1, G.3

Georgia QCC

1, 1.2, 2, 2.1, 3.1, 15.3, 15.5, 15.6

Focus

_____ Section Focus Transparency 51 and Master

Teach

- _____ Discovery Lab, *SE* p. 419
- _____ Problem-Solving Lab, *SE* p. 424
- _____ Quick Demo, *TWE* p. 425
- _____ Identifying Misconceptions, *TWE* p. 426
- _____ Chemistry Journal, *TWE* p. 423
- _____ *Laboratory Manual*, pp. 105–108 *TCR*
- _____ *Small-Scale Laboratory Manual*, pp. 37–40 *TCR*
- _____ *CBL Laboratory Manual*, pp. 13–20 *TCR*
- _____ Teaching Transparencies 42–43 and Masters
- _____ *Spanish Resources*, 14.1 *TCR*

Assess

- _____ Section Assessment, *SE* p. 427
- _____ Check for Understanding, *TWE* p. 427
- _____ Reteach, *TWE* p. 427
- _____ *Study Guide for Content Mastery*, p. 79 *TCR*
- _____ Math Skills Transparency 19 and Master

Enrichment/Application

- _____ Extension, *TWE* p. 427
- _____ *Challenge Problems*, p. 14 *TCR*
- _____ *Cooperative Learning in the Science Classroom*, *TCR*

Chapter Assessment

- _____ Assessment, *TWE* pp. 420, 421, 423, 427
- _____ *Alternate Assessment in the Science Classroom*, *TCR*
- _____ *Performance Assessment in the Science Classroom*, *TCR*

Multimedia Options

- _____ **Chemistry Interactive CD-ROM**, Section 14.1 Demonstration, Video, and Animation
- _____ **Vocabulary PuzzleMaker Software**, Ch. 14
- _____ **Cosmic Chemistry Videodisc**, Disc 1, Side 2
- _____ *Using the Internet in the Science Classroom*, *TCR*
- _____ Chemistry Web site: ga.science.glencoe.com

The Combined Gas Law and Avogadro's Principle



▶ pages 428–433

▶ 1 1/2 class session(s)

Section Objectives

- **State** the relationship among temperature, volume, and pressure as the combined gas law.
- **Apply** the combined gas law to problems involving the pressure, temperature, and volume of a gas.
- **Relate** numbers of particles and volumes by using Avogadro's principle.

National Science Content Standards

UCP.2, UCP.3; B.2, B.4, B.6

Georgia QCC

15.3, 15.4, 15.6

Focus

_____ Section Focus Transparency 52 and Master

Teach

- _____ Quick Demo, *TWE* p. 429
- _____ Chemistry Journal, *TWE* pp. 430, 432
- _____ *Spanish Resources*, 14.2 *TCR*

Assess

- _____ Section Assessment, *SE* p. 433
- _____ Check for Understanding, *TWE* p. 432
- _____ Reteach, *TWE* p. 432
- _____ *Study Guide for Content Mastery*, pp. 80–81 *TCR*
- _____ Math Skills Transparency 20 and Master

Enrichment/Application

- _____ Extension, *TWE* p. 433
- _____ *Cooperative Learning in the Science Classroom*, *TCR*

Chapter Assessment

- _____ Assessment, *TWE* pp. 430, 433
- _____ *Alternate Assessment in the Science Classroom*, *TCR*
- _____ *Performance Assessment in the Science Classroom*, *TCR*

Multimedia Options

- _____ **Chemistry Interactive CD-ROM**, Section 14.2 Demonstration and Experiment
- _____ **Vocabulary PuzzleMaker Software**, Ch. 14
- _____ *Using the Internet in the Science Classroom*, *TCR*
- _____ Chemistry Web site: ga.science.glencoe.com

The Ideal Gas Law

▶ pages 434–439
▶ 1 class session(s)

Section Objectives

- **Relate** the amount of gas present to its pressure, temperature, and volume by using the ideal gas law.
- **Compare** the properties of real and ideal gases.

National Science Content Standards

UCP.2, UCP.3; A.1; B.2, B.4, B.6; G.2

Georgia QCC

1, 1.2, 3.1, 8.3, 8.4, 15.3, 15.5, 15.6

Focus

_____ Section Focus Transparency 53 and Master

Teach

- _____ MiniLab, *SE* p. 439
- _____ ChemLab 14, *SE* pp. 444–445
- _____ Quick Demo, *TWE* pp. 434, 435
- _____ Chemistry Journal, *TWE* p. 435
- _____ *ChemLab and MiniLab Worksheets*, pp. 53–56 *TCR*
- _____ *Spanish Resources*, 14.3 *TCR*

Assess

- _____ Section Assessment, *SE* p. 439
- _____ Check for Understanding, *TWE* p. 439
- _____ Reteach, *TWE* p. 439
- _____ *Study Guide for Content Mastery*, pp. 82–83 *TCR*
- _____ Math Skills Transparency 21 and Master

Enrichment/Application

- _____ Extension, *TWE* pp. 436, 439
- _____ *Cooperative Learning in the Science Classroom*, *TCR*

Chapter Assessment

- _____ Assessment, *TWE* pp. 435, 437, 438, 439
- _____ *Alternate Assessment in the Science Classroom*, *TCR*
- _____ *Performance Assessment in the Science Classroom*, *TCR*

Multimedia Options

- _____ **Chemistry Interactive CD-ROM**, Section 14.3 Exploration
- _____ **Vocabulary PuzzleMaker Software**, Ch. 14
- _____ *Using the Internet in the Science Classroom*, *TCR*
- _____ Chemistry Web site: ga.science.glencoe.com

Gas Stoichiometry

▶ pages 440–443
▶ 3 class session(s)

Section Objectives

- **Determine** volume ratios for gaseous reactants and products by using coefficients from a chemical equation.
- **Calculate** amounts of gaseous reactants and products in a chemical reaction using the gas laws.

National Science Content Standards

UCP.2, UCP.3; A.1; B.2, B.3, B.4, B.6; E.1, E.2; F.6

Georgia QCC

1, 1.2, 2, 2.1, 3.1, 8, 9.1, 15.3, 15.4, 15.5, 15.6

Focus

_____ Section Focus Transparency 54 and Master

Teach

- _____ Chemistry and Technology, *SE* p. 446
- _____ Quick Demo, *TWE* p. 440
- _____ *Laboratory Manual*, pp. 109–112 *TCR*
- _____ Teaching Transparency 44 and Master
- _____ *Spanish Resources*, 14.4 *TCR*

Assess

- _____ Section Assessment, *SE* p. 443
- _____ Check for Understanding, *TWE* p. 442
- _____ Reteach, *TWE* p. 443
- _____ *Study Guide for Content Mastery*, p. 84 *TCR*

_____ *Reviewing Chemistry: Preparing for the Georgia High School Graduation Test*, *TCR*

Enrichment/Application

- _____ Extension, *TWE* p. 443
- _____ *Supplemental Problems*, pp. 19–20 *TCR*
- _____ *Cooperative Learning in the Science Classroom*, *TCR*

Chapter Assessment

- _____ Chapter 14 Assessment, *SE* pp. 448–451
- _____ Assessment, *TWE* pp. 441, 443
- _____ *Chapter Assessment*, pp. 79–84 *TCR*
- _____ *Alternate Assessment in the Science Classroom*, *TCR*
- _____ *Performance Assessment in the Science Classroom*, *TCR*

Multimedia Options

- _____ **Vocabulary PuzzleMaker Software**, Ch. 14
- _____ **MindJogger Videoquizzes**, Ch. 14
- _____ **TestCheck Software**, Ch. 14
- _____ **Cosmic Chemistry Videodisc**, Disc 2, Side 3
- _____ **Chemistry Interactive CD-ROM**, Ch. 14 quiz
- _____ *Using the Internet in the Science Classroom*, *TCR*
- _____ Chemistry Web site: ga.science.glencoe.com