

Light and Quantized Energy

▶ pages 117–126
▶ 1 1/2 class session(s)

Section Objectives

- **Compare** the wave and particle models of light.
- **Define** a quantum of energy and **explain** how it is related to an energy change of matter.
- **Contrast** continuous electromagnetic spectra and atomic emission spectra.

National Science Content Standards

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

Georgia QCC

1, 1.2, 2, 2.1, 3.1, 5, 6.2

Focus

_____ Section Focus Transparency 17 and Master

Teach

- _____ Discovery Lab, *SE* p. 117
- _____ MiniLab, *SE* p. 125
- _____ ChemLab 5, *SE* pp. 142–143
- _____ Quick Demo, *TWE* pp. 118, 119, 120
- _____ Chemistry Journal, *TWE* pp. 119, 122
- _____ *ChemLab and MiniLab Worksheets*, pp. 17–20 TCR
- _____ *Laboratory Manual*, pp. 33–36 TCR
- _____ Teaching Transparency 15 and Master
- _____ *Spanish Resources*, 5.1 TCR

Assess

- _____ Section Assessment, *SE* p. 126
- _____ Check for Understanding, *TWE* p. 124
- _____ Reteach, *TWE* p. 126
- _____ *Study Guide for Content Mastery*, pp. 25–26 TCR
- _____ Math Skills Transparency 5 and Master

Enrichment/Application

- _____ Extension, *TWE* p. 124
- _____ *Cooperative Learning in the Science Classroom*, TCR

Chapter Assessment

- _____ Assessment, *TWE* pp. 122, 125, 126
- _____ *Alternate Assessment in the Science Classroom*, TCR
- _____ *Performance Assessment in the Science Classroom*, TCR

Multimedia Options

- _____ **Chemistry Interactive CD-ROM**, Section 5.1 Video
- _____ **Vocabulary PuzzleMaker Software**, Ch. 5
- _____ **Cosmic Chemistry Videodisc**, Disc 1, Side 1; Disc 3, Side 6; Disc 4, Side 8
- _____ *Using the Internet in the Science Classroom*, TCR
- _____ Chemistry Web site: ga.science.glencoe.com

Quantum Theory and the Atom

▶ pages 127–134
▶ 1 1/2 class session(s)

Section Objectives

- **Compare** the Bohr and quantum mechanical models of the atom.
- **Explain** the impact of de Broglie's wave-particle duality and the Heisenberg uncertainty principle on the modern view of electrons in atoms.
- **Identify** the relationships among a hydrogen atom's energy levels, sublevels, and atomic orbitals.

National Science Content Standards

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

Georgia QCC

2, 5, 6, 6.1, 6.2

Focus

_____ Section Focus Transparency 18 and Master

Teach

- _____ Problem-Solving Lab, *SE* p. 130
- _____ Quick Demo, *TWE* pp. 129, 131
- _____ Identifying Misconceptions, *TWE* p. 133
- _____ Chemistry Journal, *TWE* pp. 129, 133
- _____ *Laboratory Manual*, pp. 37–40 *TCR*
- _____ Teaching Transparency 16 and Master
- _____ *Spanish Resources*, 5.2 *TCR*

Assess

- _____ Section Assessment, *SE* p. 134
- _____ Check for Understanding, *TWE* p. 133
- _____ Reteach, *TWE* p. 134
- _____ *Study Guide for Content Mastery*, pp. 27–28 *TCR*

Enrichment/Application

- _____ Extension, *TWE* p. 134
- _____ *Challenge Problems*, p. 5 *TCR*
- _____ *Cooperative Learning in the Science Classroom*, *TCR*

Chapter Assessment

- _____ Assessment, *TWE* pp. 128, 130, 134
- _____ *Alternate Assessment in the Science Classroom*, *TCR*
- _____ *Performance Assessment in the Science Classroom*, *TCR*

Multimedia Options

- _____ **Vocabulary PuzzleMaker Software**, Ch. 5
- _____ **Cosmic Chemistry Videodisc**, Disc 1, Side 1
- _____ *Using the Internet in the Science Classroom*, *TCR*
- _____ Chemistry Web site: ga.science.glencoe.com

Electron Configurations

▶ pages 135–141
▶ 3 class session(s)

Section Objectives

- **Apply** the Pauli exclusion principle, the aufbau principle, and Hund's rule to write electron configurations using orbital diagrams and electron configuration notation.
- **Define** valence electrons and **draw** electron-dot structures representing an atom's valence electrons.

National Science Content Standards

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

Georgia QCC

1, 1.2, 2, 2.1, 3.1, 4, 5, 6, 6.1, 6.2, 6.3, 9.6, 16

Focus

_____ Section Focus Transparency 19 and Master

Teach

- _____ How It Works, *SE* p. 144
- _____ Chemistry Journal, *TWE* p. 140
- _____ Teaching Transparency 17 and Master
- _____ *Spanish Resources*, 5.3 *TCR*

Assess

- _____ Section Assessment, *SE* p. 141
- _____ Check for Understanding, *TWE* p. 140
- _____ Reteach, *TWE* p. 141
- _____ *Study Guide for Content Mastery*, pp. 29–30 *TCR*

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

Enrichment/Application

- _____ *Supplemental Problems*, pp. 7–8 *TCR*
- _____ *Cooperative Learning in the Science Classroom*, *TCR*

Chapter Assessment

- _____ Chapter 5 Assessment, *SE* pp. 146–149
- _____ Assessment, *TWE* pp. 137, 139, 141, 143
- _____ *Chapter Assessment*, pp. 25–30 *TCR*
- _____ *Alternate Assessment in the Science Classroom*, *TCR*
- _____ *Performance Assessment in the Science Classroom*, *TCR*

Multimedia Options

- _____ **Chemistry Interactive CD-ROM**, Section 5.3 Animation and Exploration
- _____ **Vocabulary PuzzleMaker Software**, Ch. 5
- _____ **MindJogger Videoquizzes**, Ch. 5
- _____ **TestCheck Software**, Ch. 5
- _____ **Chemistry Interactive CD-ROM**, Ch. 5 quiz
- _____ *Using the Internet in the Science Classroom*, *TCR*
- _____ Chemistry Web site: ga.science.glencoe.com