

Nuclear Radiation



▶ pages 805–809
▶ 1 class session(s)

Section Objectives

- **List** the founding scientists in the study of radioactivity and **state** their discoveries.
- **Identify** alpha, beta, and gamma radiation in terms of composition and key properties.

National Science Content Standards

UCP.1, UCP.3; A.1, A.2; B.1, B.3, B.6; F.5; G.1, G.2, G.3

Georgia QCC

1, 1.2, 2.1, 3.1, 4, 5, 5.1, 7.1

Focus

_____ Section Focus Transparency 96 and Master

Teach

- _____ Discovery Lab, *SE* p. 805
 _____ Quick Demo, *TWE* pp. 805, 807
 _____ Identifying Misconceptions, *TWE* p. 806
 _____ Chemistry Journal, *TWE* p. 806
 _____ *Spanish Resources*, 25.1 *TCR*

Assess

- _____ Section Assessment, *SE* p. 809
 _____ Check for Understanding, *TWE* p. 809
 _____ Reteach, *TWE* p. 809
 _____ *Study Guide for Content Mastery*, p. 145 *TCR*

Enrichment/Application

- _____ Extension, *TWE* p. 809
 _____ *Cooperative Learning in the Science Classroom*, *TCR*

Chapter Assessment

- _____ Assessment, *TWE* pp. 807, 809
 _____ *Alternate Assessment in the Science Classroom*, *TCR*
 _____ *Performance Assessment in the Science Classroom*, *TCR*

Multimedia Options

- _____ **Vocabulary PuzzleMaker Software**, Ch. 25
 _____ **Cosmic Chemistry Videodisc**, Disc 1, Side 1
 _____ *Using the Internet in the Science Classroom*, *TCR*
 _____ Chemistry Web site: ga.science.glencoe.com

Radioactive Decay

▶ pages 810–814
▶ 1 class session(s)

Section Objectives

- **Explain** why certain nuclei are radioactive.
- **Apply** your knowledge of radioactive decay to write balanced nuclear equations.

National Science Content Standards

UCP.1, UCP.3; B.1, B.4, B.6

Georgia QCC

5, 5.1, 7.1

Focus

_____ Section Focus Transparency 97 and Master

Teach

- _____ Quick Demo, *TWE* p. 811
- _____ Chemistry Journal, *TWE* p. 813
- _____ *Laboratory Manual*, pp. 193–200 *TCR*
- _____ *Spanish Resources*, 25.2 *TCR*

Assess

- _____ Section Assessment, *SE* p. 814
- _____ Check for Understanding, *TWE* p. 813
- _____ Reteach, *TWE* p. 813
- _____ *Study Guide for Content Mastery*, p. 146 *TCR*
- _____ Math Skills Transparency 41 and Master

Enrichment/Application

- _____ Extension, *TWE* p. 814
- _____ *Cooperative Learning in the Science Classroom*, *TCR*

Chapter Assessment

- _____ Assessment, *TWE* pp. 811, 813, 814
- _____ *Alternate Assessment in the Science Classroom*, *TCR*
- _____ *Performance Assessment in the Science Classroom*, *TCR*

Multimedia Options

- _____ **Vocabulary PuzzleMaker Software**, Ch. 25
- _____ **Cosmic Chemistry Videodisc**, Disc 1, Side 1
- _____ *Using the Internet in the Science Classroom*, *TCR*
- _____ Chemistry Web site: ga.science.glencoe.com

Transmutation

▶ pages 815–820
▶ 1 class session(s)

Section Objectives

- **Describe** how induced transmutation is used to produce a transuranium element.
- **Solve** problems involving radioactive decay rates.

National Science Content Standards

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

Georgia QCC

1, 1.2, 5.1, 7.1

Focus

_____ Section Focus Transparency 98 and Master

Teach

- _____ MiniLab, SE p. 819
- _____ Quick Demo, TWE p. 817
- _____ Chemistry Journal, TWE pp. 815, 816
- _____ ChemLab and MiniLab Worksheets, pp. 97–98 TCR
- _____ Teaching Transparency 76 and Master
- _____ Spanish Resources, 25.3 TCR

Assess

- _____ Section Assessment, SE p. 820
- _____ Check for Understanding, TWE p. 819
- _____ Reteach, TWE p. 820
- _____ Study Guide for Content Mastery, p. 147 TCR
- _____ Math Skills Transparency 42 and Master

Enrichment/Application

- _____ Extension, TWE p. 818
- _____ Cooperative Learning in the Science Classroom, TCR

Chapter Assessment

- _____ Assessment, TWE pp. 818, 819, 820
- _____ Alternate Assessment in the Science Classroom, TCR
- _____ Performance Assessment in the Science Classroom, TCR

Multimedia Options

- _____ Chemistry Interactive CD-ROM, Section 25.3 Animation, Video, and Experiment
- _____ Vocabulary PuzzleMaker Software, Ch. 25
- _____ Using the Internet in the Science Classroom, TCR
- _____ Chemistry Web site: ga.science.glencoe.com

Fission and Fusion of Atomic Nuclei

▶ pages 821–826
▶ 1 class session(s)

Section Objectives

- **Compare** and **contrast** nuclear fission and nuclear fusion.
- **Explain** the process by which nuclear reactors generate electricity.

National Science Content Standards

UCP.1, UCP.3; B.1, B.4, B.6; E.2; F.1, F.4, F.5, F.6; G.1

Georgia QCC

4, 7, 7.2

Focus

_____ Section Focus Transparency 99 and Master

Teach

- _____ Quick Demo, *TWE* pp. 821, 822
- _____ Chemistry Journal, *TWE* pp. 824, 825
- _____ *Spanish Resources*, 25.4 TCR

Assess

- _____ Section Assessment, *SE* p. 826
- _____ Check for Understanding, *TWE* p. 826
- _____ Reteach, *TWE* p. 826
- _____ *Study Guide for Content Mastery*, pp. 148–149 TCR

Enrichment/Application

- _____ Extension, *TWE* pp. 823, 824
- _____ *Challenge Problems*, p. 25 TCR
- _____ *Cooperative Learning in the Science Classroom*, TCR

Chapter Assessment

- _____ Assessment, *TWE* pp. 824, 826
- _____ *Alternate Assessment in the Science Classroom*, TCR
- _____ *Performance Assessment in the Science Classroom*, TCR

Multimedia Options

- _____ **Chemistry Interactive CD-ROM**, Section 25.4 Video
- _____ **Vocabulary PuzzleMaker Software**, Ch. 25
- _____ **Cosmic Chemistry Videodisc**, Disc 1, Side 1
- _____ *Using the Internet in the Science Classroom*, TCR
- _____ Chemistry Web site: ga.science.glencoe.com

Applications and Effects of Nuclear Reactions



► pages 827–831
► 2 class session(s)

Section Objectives

- **Describe** several methods used to detect and measure radiation.
- **Explain** an application of radiation used in the treatment of disease.
- **Describe** some of the damaging effects of radiation on biological systems.

National Science Content Standards

UCP.1, UCP.3; A.1, A.2; B.1, B.6; E.1, E.2; F.1, F.5; G.1

Georgia QCC

1, 1.1, 1.2, 2, 2.1, 3.1, 4, 5, 5.1, 7, 7.1, 7.2

Focus

_____ Section Focus Transparency 100 and Master

Teach

- _____ Problem-Solving Lab, *SE* p. 830
- _____ CBL ChemLab 25, *SE* pp. 832–833
- _____ Chemistry and Society, *SE* p. 834
- _____ Quick Demo, *TWE* p. 827
- _____ Chemistry Journal, *TWE* p. 829
- _____ *ChemLab and MiniLab Worksheets*, pp. 99–101 *TCR*
- _____ *Spanish Resources*, 25.5 *TCR*

Assess

- _____ Section Assessment, *SE* p. 831
- _____ Check for Understanding, *TWE* p. 831
- _____ Reteach, *TWE* p. 831
- _____ *Study Guide for Content Mastery*, p. 150 *TCR*
- _____ *Reviewing Chemistry: Preparing for the Georgia High School Graduation Test*, *TCR*

Enrichment/Application

- _____ Extension, *TWE* pp. 829, 831
- _____ *Supplemental Problems*, p. 39 *TCR*
- _____ *Cooperative Learning in the Science Classroom*, *TCR*

Chapter Assessment

- _____ Chapter 25 Assessment, *SE* pp. 836–839
- _____ Assessment, *TWE* pp. 829, 830, 831, 833
- _____ *Chapter Assessment*, pp. 145–150 *TCR*
- _____ *Alternate Assessment in the Science Classroom*, *TCR*
- _____ *Performance Assessment in the Science Classroom*, *TCR*

Multimedia Options

- _____ **Chemistry Interactive CD-ROM**, Section 25.5 Demonstration and Video
- _____ **Vocabulary PuzzleMaker Software**, Ch. 25
- _____ **Cosmic Chemistry Videodisc**, Disc 4, Side 7
- _____ **MindJogger Videoquizzes**, Ch. 25
- _____ **TestCheck Software**, Ch. 25
- _____ **Chemistry Interactive CD-ROM**, Ch. 25 quiz
- _____ *Using the Internet in the Science Classroom*, *TCR*
- _____ Chemistry Web site: ga.science.glencoe.com