

Voltaic Cells

▶ pages 663–672
▶ 2 class session(s)

Section Objectives

- **Describe** a way to obtain electrical energy from a redox reaction.
- **Identify** the parts of a voltaic cell and explain how each part operates.
- **Calculate** cell potentials and **determine** the spontaneity of redox reactions.

National Science Content Standards

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

Georgia QCC

1, 1.2, 2.1, 3.1, 9.1, 9.6, 12, 13, 13.1

Focus

_____ Section Focus Transparency 78 and Master

Teach

- _____ Discovery Lab, *SE* p. 663
- _____ CBL ChemLab 21, *SE* pp. 688–689
- _____ Quick Demo, *TWE* p. 668
- _____ Identifying Misconceptions, *TWE* p. 664
- _____ Chemistry Journal, *TWE* p. 667
- _____ *ChemLab and MiniLab Worksheets*, pp. 82–84 *TCR*
- _____ *CBL Laboratory Manual*, pp. 37–40 *TCR*
- _____ Teaching Transparency 63 and Master
- _____ *Spanish Resources*, 21.1 *TCR*

Assess

- _____ Section Assessment, *SE* p. 672
- _____ Check for Understanding, *TWE* p. 672
- _____ Reteach, *TWE* p. 672
- _____ *Study Guide for Content Mastery*, pp. 121–123 *TCR*
- _____ Math Skills Transparency 32 and Master

Enrichment/Application

- _____ Extension, *TWE* p. 672
- _____ *Challenge Problems*, p. 21 *TCR*
- _____ *Cooperative Learning in the Science Classroom*, *TCR*

Chapter Assessment

- _____ Assessment, *TWE* pp. 666, 669, 671, 672
- _____ *Alternate Assessment in the Science Classroom*, *TCR*
- _____ *Performance Assessment in the Science Classroom*, *TCR*

Multimedia Options

- _____ **Chemistry Interactive CD-ROM**, Section 21.1 Experiment, Demonstration, and Video
- _____ **Vocabulary PuzzleMaker Software**, Ch. 21
- _____ **Cosmic Chemistry Videodisc**, Disc 3, Side 5
- _____ *Using the Internet in the Science Classroom*, *TCR*
- _____ Chemistry Web site: ga.science.glencoe.com

Types of Batteries

▶ pages 673–682
▶ 1 class session(s)

Section Objectives

- **Describe** the structure, composition, and operation of the typical carbon-zinc dry cell battery.
- **Distinguish** between primary and secondary batteries and give two examples of each type.
- **Explain** the structure and operation of the hydrogen-oxygen fuel cell.
- **Describe** the process of corrosion of iron and methods to prevent corrosion.

National Science Content Standards

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

Georgia QCC

1, 3.1, 4, 9.6, 13

Focus

_____ Section Focus Transparency 79 and Master

Teach

- _____ MiniLab, SE p. 681
- _____ Problem-Solving Lab, SE p. 679
- _____ Quick Demo, TWE p. 674
- _____ Identifying Misconceptions, TWE p. 677
- _____ Chemistry Journal, TWE p. 681
- _____ ChemLab and MiniLab Worksheets, p. 81 TCR
- _____ Teaching Transparency 64 and Master
- _____ Spanish Resources, 21.2 TCR

Assess

- _____ Section Assessment, SE p. 682
- _____ Check for Understanding, TWE p. 682
- _____ Reteach, TWE p. 682
- _____ Study Guide for Content Mastery, pp. 124–125 TCR
- _____ Math Skills Transparency 33 and Master

Enrichment/Application

- _____ Extension, TWE pp. 675, 678
- _____ Cooperative Learning in the Science Classroom, TCR

Chapter Assessment

- _____ Assessment, TWE pp. 674, 679, 680, 681, 682
- _____ Alternate Assessment in the Science Classroom, TCR
- _____ Performance Assessment in the Science Classroom, TCR

Multimedia Options

- _____ Chemistry Interactive CD-ROM, Section 21.2 Animation and Exploration
- _____ Vocabulary PuzzleMaker Software, Ch. 21
- _____ Cosmic Chemistry Videodisc, Disc 2, Side 3; Disc 3, Side 5
- _____ Using the Internet in the Science Classroom, TCR
- _____ Chemistry Web site: ga.science.glencoe.com

Electrolysis

▶ pages 683–687
▶ 2 class session(s)

Section Objectives

- **Describe** how it is possible to reverse a spontaneous redox reaction in an electrochemical cell.
- **Compare** the reactions involved in the electrolysis of molten sodium chloride with those in the electrolysis of brine.
- **Discuss** the importance of electrolysis in the smelting and purification of metals.

National Science Content Standards

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

Georgia QCC

1, 1.1, 1.2, 2, 2.1, 3.1, 4, 5.2, 9.6, 13, 13.1, 15.4

Focus

_____ Section Focus Transparency 80 and Master

Teach

_____ Chemistry and Technology, SE p. 690

_____ Quick Demo, TWE pp. 685, 686

_____ Identifying Misconceptions, TWE p. 684

_____ Chemistry Journal, TWE pp. 684, 685

_____ Laboratory Manual, pp. 161–168 TCR

_____ Forensics Laboratory Manual, pp. 29–42 TCR

_____ Teaching Transparency 65 and Master

_____ Spanish Resources, 21.3 TCR

Assess

_____ Section Assessment, SE p. 687

_____ Check for Understanding, TWE p. 687

_____ Reteach, TWE p. 687

_____ Study Guide for Content Mastery, p. 126 TCR

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

Enrichment/Application

_____ Extension, TWE p. 684

_____ Supplemental Problems, pp. 33–34 TCR

_____ Cooperative Learning in the Science Classroom, TCR

Chapter Assessment

_____ Chapter 21 Assessment, SE pp. 692–695

_____ Assessment, TWE pp. 685, 687, 689

_____ Chapter Assessment, pp. 121–126 TCR

_____ Alternate Assessment in the Science Classroom, TCR

_____ Performance Assessment in the Science Classroom, TCR

Multimedia Options

_____ Chemistry Interactive CD-ROM, Section 21.3 Demonstration and Video

_____ Vocabulary PuzzleMaker Software, Ch. 21

_____ MindJogger Videoquizzes, Ch. 21

_____ TestCheck Software, Ch. 21

_____ Cosmic Chemistry Videodisc, Disc 2, Side 3; Disc 2, Side 4

_____ Chemistry Interactive CD-ROM, Ch. 21 quiz

_____ Using the Internet in the Science Classroom, TCR

_____ Chemistry Web site: ga.science.glencoe.com