

The Chemistry of Life



Chapter Pacing Guide

Please note that this pace is based on completing selected sections of the text in 90 classes, approximately 90 minutes each. Refer to the Course Planning Guide on page xvii of this booklet for a complete list of time allotments assigned to each section. Less time can be allocated for each chapter if you plan to teach all 26 chapters.

Period	Content
0.5	24.1 Proteins
0.5	24.2 Carbohydrates
0.5	24.3 Lipids
0.5	24.4 Nucleic Acids
0.5	24.5 Metabolism
0.5	Review and Assessment

Proteins pages 775–780

Key: SE = Student Edition,
TWE = Teacher Wraparound Edition,
TCR = Teacher Classroom Resources

National Science Content Standards: UCP.2; A.1; B.2, B.3; F.1; G.1

Georgia QCC: 1, 2.1, 3.1, 8.4, 9.6, 11, 12.3, 17

Objectives

- **Describe** the structures of amino acids and proteins.
- **Explain** the roles of proteins in cells.

Lesson Resources

- _____ Section Focus Transparency 91 and Master
- _____ Math Skills Transparency 39 and Master
- _____ Teaching Transparencies 73–74 and Masters
- _____ *Study Guide for Content Mastery*, pp. 139–140
TCR

Optional Resources

- _____ *Laboratory Manual*, pp. 185–188 TCR
- _____ *Solving Problems: A Chemistry Handbook*,
Section 24.1 TCR
- _____ *Spanish Resources* 24.1 TCR

Multimedia Resources

- _____ **Chemistry Interactive CD-ROM**, Section 24.1
Animation and Experiment
- _____ **MindJogger Videoquizzes**, Ch. 24
- _____ **Guided Reading Audio Program**, Section 24.1
- _____ *Using the Internet in the Science Classroom*, TCR
- _____ Chemistry Web site: ga.science.glencoe.com

Lesson Plan

Activity	Resources	Suggested Time
Classroom Management <ul style="list-style-type: none"> • Display the Section Focus Transparency and have students answer the questions. • Distribute the corrected Chapter 23 tests. 	Section Focus Transparency 91 and Master	5 minutes
Core Lesson <ul style="list-style-type: none"> • Introduce Chapter 24 with Using the Photo. • Have students complete the Discovery Lab. • Teach the main concepts of Section 24.1. 	TWE, p. 774 SE, p. 775 TWE, pp. 775–780	30 minutes
In-Class Check <ul style="list-style-type: none"> • Use the Identifying Misconceptions strategy. 	TWE, p. 778	5 minutes
Homework <ul style="list-style-type: none"> • Have students finish the Identifying Misconceptions by completing the Assess New Knowledge section. • Have students complete Section 24.1 Assessment. • Assign relevant questions from Chapter 24 Assessment. 	TWE, p. 778 SE, p. 780 SE, pp. 800–803	5 minutes

[total = 45 minutes]

Carbohydrates *pages 781–783*

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National Science Content Standards: UCP.2; B.2; F.1
Georgia QCC: 8.3, 17

Objectives

- **Describe** the structures of monosaccharides, disaccharides, and polysaccharides.
- **Explain** the functions of carbohydrates in living things.

Lesson Resources

- _____ Section Focus Transparency 92 and Master
- _____ *Study Guide for Content Mastery*, p. 141 TCR

Optional Resources

- _____ *Solving Problems: A Chemistry Handbook*,
Section 24.2 TCR
- _____ *Spanish Resources 24.2 TCR*

Multimedia Resources

- _____ **MindJogger Videoquizzes**, Ch. 24
- _____ **Guided Reading Audio Program**, Section 24.2
- _____ **Cosmic Chemistry Videodisc**, Disc 4, Side 7
- _____ *Using the Internet in the Science Classroom*, TCR
- _____ Chemistry Web site: ga.science.glencoe.com

Lesson Plan

Activity	Resources	Suggested Time
Classroom Management <ul style="list-style-type: none"> • Display the Section Focus Transparency and have students answer the questions. • Have students check homework answers. 	Section Focus Transparency 92 and Master <i>TWE</i> , pp. 778, 780, 800–803	5 minutes
Discussion <ul style="list-style-type: none"> • Answer any questions about homework. 	<i>TWE</i> , pp. 778, 780, 800–803	0–5 minutes
Core Lesson <ul style="list-style-type: none"> • Introduce Section 24.2 with the Quick Demo. • Teach the main concepts of Section 24.2. 	<i>TWE</i> , p. 782 <i>TWE</i> , pp. 781–783	25–30 minutes
In-Class Check <ul style="list-style-type: none"> • Complete the Check for Understanding strategy. 	<i>TWE</i> , p. 783	5 minutes
Homework <ul style="list-style-type: none"> • Have students complete Section 24.2 Assessment. • Assign relevant questions from Chapter 24 Assessment. 	<i>SE</i> , p. 783 <i>SE</i> , pp. 800–803	5 minutes

[total = 45 minutes]

Lipids pages 784–787

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National Science Content Standards: UCP.2; A.1; B.2, B.3, B.6
Georgia QCC: 1, 3.1, 8.3, 8.4, 9.1, 9.6, 11, 17

Objectives

- **Describe** the structures of fatty acids, triglycerides, phospholipids, and steroids.
- **Explain** the functions of lipids in living organisms.
- **Identify** some reactions that fatty acids undergo.
- **Relate** the structure and function of cell membranes.

Lesson Resources

- _____ Section Focus Transparency 93 and Master Teaching Transparency 74 and Master
- _____ *ChemLab and MiniLab Worksheets*, p. 93 TCR
- _____ *Study Guide for Content Mastery*, p. 142 TCR

Optional Resources

- _____ *Laboratory Manual*, pp. 189–192 TCR
- _____ *Solving Problems: A Chemistry Handbook*, Section 24.3 TCR
- _____ *Spanish Resources* 24.3 TCR

Multimedia Resources

- _____ **Chemistry Interactive CD-ROM**, Section 24.3 Video and Demonstration
- _____ **MindJogger Videoquizzes**, Ch. 24
- _____ **Guided Reading Audio Program**, Section 24.3
- _____ *Using the Internet in the Science Classroom*, TCR
- _____ Chemistry Web site: ga.science.glencoe.com

Lesson Plan

Activity	Resources	Suggested Time
Classroom Management <ul style="list-style-type: none"> • Display the Section Focus Transparency and have students answer the questions. • Have students check homework answers. 	Section Focus Transparency 93 and Master TWE, pp. 783, 800–803	5 minutes
Discussion <ul style="list-style-type: none"> • Answer any questions about homework. 	TWE, pp. 783, 800–803	0–5 minutes
Core Lesson <ul style="list-style-type: none"> • Teach the main concepts of Section 24.3. 	TWE, pp. 784–787	15–20 minutes
In-Class Check <ul style="list-style-type: none"> • Reinforce Section 24.3 concepts with the <i>Study Guide for Content Mastery</i>. • Complete the Check for Understanding and Reteach strategies. 	<i>Study Guide for Content Mastery</i> , p. 142 TCR TWE, p. 787	15 minutes
Homework <ul style="list-style-type: none"> • Have students complete Section 24.3 Assessment. • Assign relevant questions from Chapter 24 Assessment. 	SE, p. 787 SE, pp. 800–803	5 minutes

[total = 45 minutes]

Nucleic Acids pages 788–791

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National Science Content Standards: UCP.2; A.2; B.2, B.3; E.2; G.1, G.3

Georgia QCC: 8.3, 8.4, 11, 17

Objectives

- **Identify** the structural components of nucleic acids.
- **Relate** the function of DNA to its structure.
- **Describe** the structure and function of RNA.

Lesson Resources

- _____ Section Focus Transparency 94 and Master
- _____ Math Skills Transparency 40 and Master
- _____ *Study Guide for Content Mastery*, p. 143 TCR

Optional Resources

- _____ *Challenge Problems*, p. 24 TCR
- _____ *Solving Problems: A Chemistry Handbook*, Section 24.4 TCR
- _____ *Spanish Resources 24.4 TCR*

Multimedia Resources

- _____ **MindJogger Videoquizzes**, Ch. 24
- _____ **Guided Reading Audio Program**, Section 24.4
- _____ *Using the Internet in the Science Classroom*, TCR
- _____ Chemistry Web site: ga.science.glencoe.com

Lesson Plan

Activity	Resources	Suggested Time
Classroom Management <ul style="list-style-type: none"> • Display the Section Focus Transparency and have students answer the questions. • Have students check homework answers. 	Section Focus Transparency 94 and Master TWE, pp. 787, 800–803	5 minutes
Discussion <ul style="list-style-type: none"> • Answer any questions about homework. 	TWE, pp. 787, 800–803	5 minutes
Core Lesson <ul style="list-style-type: none"> • Introduce Section 24.4 with the Quick Demo. • Teach the main concepts of Section 24.4. 	TWE, p. 789 TWE, pp. 788–791	25 minutes
In-Class Check <ul style="list-style-type: none"> • Complete the Check for Understanding and Reteach strategies. 	TWE, p. 791	5 minutes
Homework <ul style="list-style-type: none"> • Have students complete Section 24.4 Assessment. • Assign the Problem-Solving Lab. • Assign relevant questions from Chapter 24 Assessment. 	SE, p. 791 SE, p. 790 SE, pp. 800–803	5 minutes

[total = 45 minutes]

Metabolism *pages 792–795*

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National Science Content Standards: UCP.2; A.1, A.2; B.2, B.3, B.6; E.2; F.1, F.3

Georgia QCC: 1, 1.2, 2, 2.1, 3.1, 8, 8.3, 8.4, 9.1, 9.4, 9.6, 11, 12.3, 15.4, 17

Objectives

- **Distinguish** between anabolism and catabolism.
- **Describe** the role of ATP in metabolism.
- **Compare** and **contrast** the processes of photosynthesis, cellular respiration, and fermentation.

Lesson Resources

- _____ Section Focus Transparency 95 and Master
- _____ Teaching Transparency 75 and Master
- _____ *ChemLab and MiniLab Worksheets*, pp. 94–96
TCR
- _____ *Study Guide for Content Mastery*, p. 144 TCR

- _____ *Using the Internet in the Science Classroom*, TCR
- _____ Chemistry Web site: ga.science.glencoe.com

Optional Resources

- _____ *Solving Problems: A Chemistry Handbook*,
Section 24.5 TCR
- _____ *Spanish Resources 24.5 TCR*
- _____ *Supplemental Problems*, pp. 37–38 TCR

Multimedia Resources

- _____ **MindJogger Videoquizzes**, Ch. 24
- _____ **Guided Reading Audio Program**, Section 24.5

Lesson Plan

Activity	Resources	Suggested Time
Classroom Management <ul style="list-style-type: none"> • Display the Section Focus Transparency and have students answer the questions. • Set-up the Check for Understanding activity, and ask students to observe the setup periodically throughout class. • Have students check homework answers. 	Section Focus Transparency 95 and Master <i>TWE</i> , p. 794 <i>TWE</i> , pp. 790, 791, 800–803	5 minutes
Discussion <ul style="list-style-type: none"> • Answer any questions about homework. 	<i>TWE</i> , pp. 790, 791, 800–803	0–5 minutes
Core Lesson <ul style="list-style-type: none"> • Teach the main concepts of Section 24.5. • Have students read the ChemLab and begin the Pre-Lab steps. (Note: this lab will take one period to complete. Time adjustments may be necessary in subsequent lessons.) 	<i>TWE</i> , pp. 792–795 <i>SE</i> , pp. 796–797	25–30 minutes
In-Class Check <ul style="list-style-type: none"> • Complete the Check for Understanding and Reteach strategies. • Answer questions on Chapter 24 in preparation for the test. 	<i>TWE</i> , pp. 794–795 <i>TWE</i> , pp. 774–803	5 minutes
Homework <ul style="list-style-type: none"> • Have students complete Section 24.5 Assessment. • Assign relevant questions from Chapter 24 Assessment. • Assign supplemental problems to prepare students for the test. 	<i>SE</i> , p. 795 <i>SE</i> , pp. 800–803 <i>Supplemental Problems</i> , pp. 37–38 TCR	5 minutes

[total = 45 minutes]

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Assessment Resources

- _____ *Chapter Assessment*, Ch. 24 TCR
- _____ *Performance Assessment in the Science Classroom*, TCR
- _____ *Alternate Assessment in the Science Classroom*, TCR
- _____ *Reviewing Chemistry: Mastering the Georgia QCC*, TCR

Multimedia Resources

- _____ **MindJogger Videoquizzes**, Ch. 24
- _____ **TestCheck Software**, Ch. 24
- _____ **Chemistry Interactive CD-ROM**, Ch. 24 quiz
- _____ **Vocabulary PuzzleMaker Software**, Ch. 24

Activity	Resources	Suggested Time
Classroom Management <ul style="list-style-type: none"> • Have students check homework answers. 	<i>TWE</i> , pp. 795, 800–803 <i>Supplemental Problems</i> , pp. 37–38 TCR	5 minutes
Reviewing the Chapter <ul style="list-style-type: none"> • Answer any questions about homework. • Answer any final questions about Chapter 24. 	<i>Supplemental Problems</i> , pp. 37–38 TCR <i>TWE</i> , pp. 774–803	5 minutes
Assessment <ul style="list-style-type: none"> • Distribute the test and allow students to work quietly. 	<i>Chapter Assessment</i> , pp. 139–144 TCR	30–35 minutes
Closing <ul style="list-style-type: none"> • As students complete the test, have them read the Chapter 25 Opener. • If students have time, let them explore the Chemistry Online for Chapter 25. 	SE, p. 804 ga.science.glencoe.com	0–5 minutes

[total = 45 minutes]